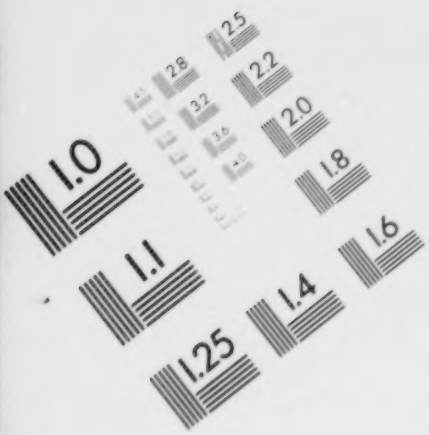

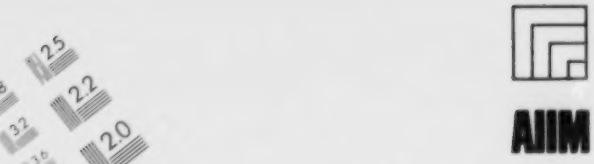

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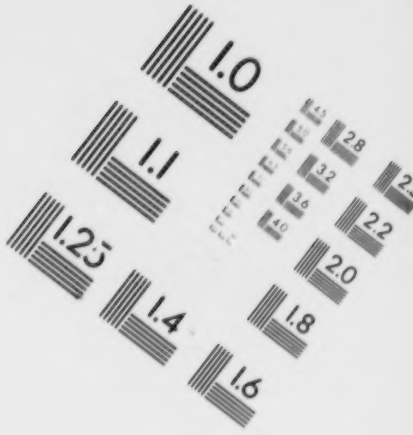

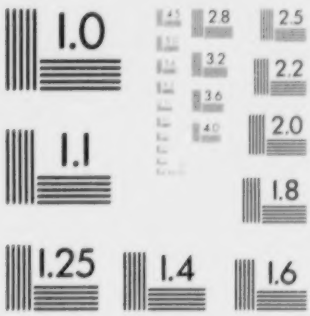

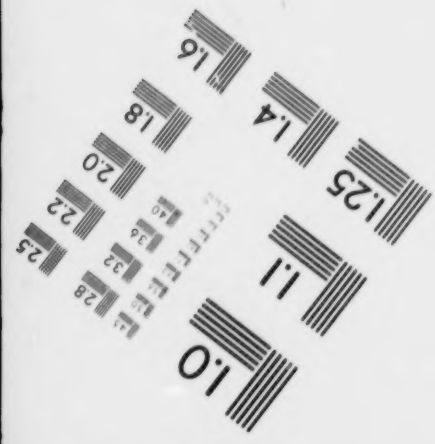

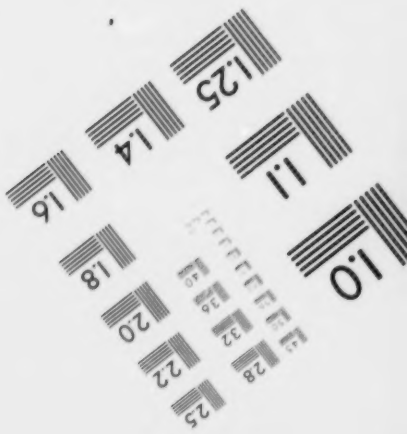

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In Partial Fulfillment
of the Requirements for the Degree of
Doctor of Education
in Teaching English to Students of Other Languages

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ABSTRACT

A Collaborative E-mail Exchange for Teaching English
as a Second Language to Intermediate-level ESL Students:
A Case Study in a Hong Kong Secondary School

by

Roseanne Greenfield

This qualitative case study examines feelings, attitudes and opinions of secondary school ESL students towards a collaborative e-mail exchange for the purpose of learning English, enacted between a Form 4 (10th grade) ESL class at Buddhist Sin Tak College in Hong Kong and an 11th grade English class at Green River Community High School in Iowa, USA.

The exchange was based on a researcher-designed instructional model, utilizing current and widely accepted theories, methods and pedagogical approaches for modern second language instruction today: cooperative learning, communicative language learning, process writing, project-based learning, authentic, context-based learning, theme-based learning and a metacognative focus on writing. A secondary goal of this research included evaluation and assessment of the instructional model above.

This research looks at the totality of a collaborative e-mail exchange from "start to finish," including pre-project planning, locating partners, technology set-up, academic preparation, opening communication, cooperative planning and coordination, well-established teaching methods, organizing a joint publication, evaluation and closing communication. It additionally examines the logistics of implementing such an exchange at a school bound by a strict "national curriculum," such as Buddhist Sin Tak College in Hong Kong.

Most students enjoyed the exchange, gained general confidence in English and computer skills and felt that they made significant progress in writing, thinking and speaking. Cooperative learning received the most favorable response from students, who believed it was the "most helpful" activity for learning English.

As the project progressed, however, students with strong computer skills indicated less satisfaction than those with weak computer skills. Although most students believed this instructional model helped with general communicative competence, they were ambivalent as to whether it helped them improve on public exam-related skills such as grammar usage and discrete language functions.

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DEDICATION

To my family, both near and far

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Chapter 1

INTRODUCTION

> "Computers have become so widespread and their uses have expanded so dramatically that the majority of language teachers must now begin to think about the implications of computers for language learning."
>
> — *Mark Warschauer, 1996b, p. 3*

> An e-mail exchange is "the bridge of communication with other people in other countries. It is a good way to improve our English."
>
> — *Howard Won, May 27, 1999*
> *Buddhist Sin Tak College, Hong Kong*
> *during a collaborative e-mail exchange*

At the dawn of the new millennium, society is undergoing fundamental changes. One such transformation is the shift from an industrial manufacturing culture to an information society based on knowledge-related activities (Crawford, 1995, p. 1). Knowledge has become an essential element of our daily lives, and the means for gathering knowledge are no longer bound by traditional classroom paradigms. For example, the "top-down" model of a teacher disseminating facts to a passive audience is quickly being replaced by new, progressive paradigms. These paradigms are student-centered, egalitarian and developed from "bottom-up" modes of instruction. They focus on life-long learning strategies, collaborative efforts between students and teachers, and consider the global perspective—highly valued skills in the marketplace of the future. In addition, learning is not always confined to the physical walls of a school, as it has been in the past. At the heart of this transformation are computers—tools seen as having great potential to enhance and complement new learning paradigms.

Over the past two decades, computers have become accepted instructional tools in ESL classrooms. Collaborative, multinational e-mail exchanges are just one of the many computer-based activities that ESL teachers

today utilize in hopes of increasing student language proficiency. Some enthusiastic instructors have jumped on the "telecommunications bandwagon," propelled by tales of heightened student interest and motivation resulting from global telecommunications exchanges. This "camp" generally views computers as tools for providing a variety of "truly communicative and collaborative language experiences" (Murray, 1987, p. 13). Others, more skeptical of technology's impact on language learning, believe the "message" rather than the "medium" affects student outcome (Clark, 1991), although they acknowledge the promise and potential of global telecommunications used in tandem with a well-designed curriculum.

1.1 Background of the Problem

The literature being produced today about collaborative e-mail exchanges has not kept pace with the demand for answers to questions about the link between such exchanges and second language learning. While the number of ESL teachers embarking on national or multinational e-mail exchanges increases daily, many do so without well-designed models for organization or curricular integration. Stoks (1993, p. 91) notes that new technology in the language classroom has to date been unsuccessful, largely due to "lack of sound curricular integration," and Chapelle (1997) and Gonzalez-Bueno (1998) agree that Computer-Mediated Communication (C-MC)[1] in the language classroom suffers from a lack of extensive theoretical research.

There has additionally been little investigation into ESL student attitudes, feelings and beliefs about collaborative e-mail exchanges. Instead, most research is concerned with test outcomes and the question, "Does computer-assisted language learning (CALL) contribute to students' achievement?" (Benremouga, 1995, p. 2). This focus runs contrary to new, student-centered educational paradigms, and fails to explore what is going on in students' minds when they use computers. Should we not, instead, be asking students, "What

[1] The term Computer-Mediated Communication refers to the act of communication established between two or more people through the medium of the computer, using e-mail, "chat" programs, electronic bulletin boards or Listservs. The communicating parties can be located in a multitude of places such as different continents, countries or cities, and communication exchanges can be of a personal, professional or educational related nature. The term has recently become popularized to describe collaborative computer projects shared between distant partner classes.

do you think about your e-mail exchange?," "Do you believe it has helped you to learn English?" and "If so (or if not), why, (why not) or in what ways?"

In spite of new paradigms and technological advances, integration of good pedagogy and computer-mediated communication in the ESL classroom cannot yet be described as widespread. This is true for several reasons. First, there is no blueprint or model explaining how to implement exemplary C-MC exchanges into an ESL curriculum. Secondly, some schools still do not have access to "basic" tools needed to enact an exchange, although this problem is quickly diminishing as telecommunications technology is increasingly being welcomed and subsidized by school boards and ministries throughout the world. Finally, the nature of "national curricula" may impede implementation of new activities such as collaborative, multinational e-mail exchanges. In Hong Kong, for example, the secondary teachers' primary goal is generally viewed as preparing students to pass public examinations (Richards, *et. al.*, 1992). The exam-based curriculum is extensive and time-consuming, often leaving the ESL teacher without the opportunity to explore new pedagogical methods or activities.

1.2 Purpose of the Study

The purpose of this case study is to "fill in" gaps in the research on second language learning and C-MC, as described above, by examining one international, collaborative e-mail exchange used for teaching English to intermediate-level ESL students in a Hong Kong secondary school. My research goals are threefold:

1. To evaluate an instructional model for a collaborative e-mail exchange for ESL secondary students, based on exemplary ESL methodologies and pedagogical techniques
2. To examine the feelings, attitudes, opinions and beliefs of secondary school ESL students towards a collaborative e-mail exchange for the purpose of learning English
3. To examine the logistics of implementing a C-MC exchange at a "national curriculum" school

1.3 Guiding Research Questions

Emerging from these goals are series of research questions that have guided this study:

1. Do student attitudes about computers and language learning or a combination of these two variables change as a result of this project?
2. Does computer background or keyboarding skill have an effect on attitude, interest or motivation towards collaborative e-mail projects for learning English?
3. Do students perceive that this project has helped them learn the four language skills?:
   a. Writing
   b. Reading
   c. Speaking
   d. Listening
4. Do students believe that collaborative, cooperative learning helps them learn English?

1.4 Scope of the Study

This case study was conducted in the spring of 1999, and involved two schools on two different continents connected by e-mail: the Buddhist Sin Tak College in Kwai Chung, Hong Kong, and Green River Community High School in Green River, Iowa, USA. Buddhist Sin Tak College is an English medium, public secondary school offering a Form 1 through Form 7 curriculum for twelve- through nineteen-year-olds. My research population was a class of 45 Form 4 students (fifteen- and sixteen-year-olds) known as the "4E" English class—most having a mid- to high-Intermediate level of English proficiency. Green River Community High School is a public high school for grades 9 -12, representing thirteen– through eighteen-year-olds. Our American "partners" were members of an 11th grade elective World Literature class, composed of 16 and 17-year olds. All of the Green River students spoke English as a first language.

After conducting a three-month collaborative e-mail exchange based on exemplary ESL pedagogy and methods, an assessment of student perspectives, attitudes and opinions about the project was performed. Students in both classes were given pre- and post-model surveys to compare initial perceptions about the project with perceived changes in their own English ability at the project's conclusion. Additional data was gathered from formal and informal

student interviews, questionnaires, audio taped class sessions, video taped class sessions and naturalistic observation.

1.5 Significance of the Study

Collaborative e-mail exchanges in secondary schools have increased exponentially over the past few years, although many instructors lack solid pedagogical models for merging ESL curriculum and computer technology. So little has been written specifically for ESL students and CM-C exchanges, that the process may seem inaccessible and difficult to undertake.

In addition, developing academically sound e-mail exchanges can place a considerable demand on teacher time and energy. Teachers may be reluctant to get started without knowing if it will be worth the effort, or how their students might benefit from such an exchange. Teachers at "national curriculum" schools may shy away from new projects, due to tight timeframes or restrictive syllabi.

In light of these concerns, this case study presents a model for a collaborative, international e-mail exchange for secondary ESL students at a "national curriculum" school. It is based on current and widely-accepted theories and methods of modern second language instruction, and can be examined by teachers wishing to set up their own exchange projects. By offering a "close up" or "insider's view" of the exchange development, organization and content, it is hoped that ESL teachers can better make their own decisions about the use of C-MC with their particular ESL student populations.

The timing of this study coincides with a strong push by the Hong Kong government in the direction of Information Technology (IT). In June of 1998, the Education and Manpower Bureau developed a five-year strategic plan to integrate IT into local schools, calling for teachers and administrators to make a "paradigm shift" and put IT "into practice" (Education and Manpower Bureau, 1998, p. 2). Hong Kong's Chief Executive, Tung Chee Hwa, has continuously issued reports and plans to make Hong Kong a leader "in the information world of tomorrow" (Tung, 1998, p. 1) and has supported technology grants for secondary schools.

However, as in any paradigm shift, change comes slowly. Although some Hong Kong schools are involved in groundbreaking IT pilot schemes (Lee, 1998, p. 1), others have been left out of the picture. In light of the current interest in global telecommunications projects for students, this is an optimal time for researchers and teachers to experiment with new paradigms and technologies, taking advantage of governmental funding, grants and the attention being placed on the subject.

1.6 Theoretical Framework

This case study draws upon a modern approach to language learning, involving an eclectic mix of theory, philosophies and methods including the Comprehensible Input Theory, Collaborative Learning Theory and the methodologies of Communicative Language Learning (CLL), Process Writing and Project-Based Learning (P-BL), (among others).

1.7 Definition of Terms

Many of the terms used in this dissertation are new, changing, or job-specific words. For this reason, I have provided a short definition of them below.

Brainstorming: "An interaction strategy used to generate ideas or to help determine the exact nature of content to be discussed. This approach encourages group members to think creatively and to expand upon ideas of fellow group members" and to "create a pool of ideas on a topic" (Seaman and Fellenz, 1989, p. 134).

C-MC: An acronym for Computer-Mediated Communication. This refers to the act of communication between two or more people through the medium of the computer. C-MC includes the exchange of information through e-mail, electronic bulletin boards, Listservs and computer conferencing. The term has recently become popularized to describe collaborative computer projects between distant partner classes.

CALL: Computer Assisted Language Learning

Cloze Exercise: Written text in which key words have been taken out, allowing students to guess the missing words. Students do so by relying on the paragraph context and knowledge of the information presented.

Collaborative: Working in partnership. In the context of an e-mail exchange, "collaborative" most often means working together with distant and local partners in order to realize a shared learning goal.

Concordancing Program: A computer program which searches for all the occurrences of a given word in a particular text and displays or prints the word with a preferred amount of context (enclosed within a certain amount of text).

DSL: Digital Subscriber Line is a technology for bringing high-bandwidth information to homes and small businesses over ordinary copper telephone lines. Assuming your home or small business is close enough to a telephone company central office that offers DSL service, you may be able to receive data at rates up to 6.1 megabits (millions of bits) per second (of a theoretical 8.448 megabits per second)—much faster than a leased line or a telephone—enabling continuous transmission of motion video, audio, or even 3-D effects.

Free-Association Questions: A technique originally developed by Sigmund Freud to encourage patients to say everything about a given subject that enters their mind, without censoring it or attempting to make it socially appropriate, logical or relevant. In terms of this study, free-association was used as a means to solicit honest, uncensored feedback about an educational model from student respondents.

Global Telecommunications: Communication via telephone lines involving parties across the globe. For the purpose of this study, the term refers to communication with a modem for relaying computer messages.

ICQ: An acronym for the phrase "I seek you." A free, Internet-based "chat" program, allowing members to meet other members "online" and hold discussions on given topics, as specified by entering different "chat rooms."

Information Technology (IT): A term that encompasses all forms of technology used to create, store, exchange, and use information in its various forms (business data, voice conversations, still images, motion pictures, multimedia presentations, and other forms, including those not yet conceived). It's a convenient term for including both telephony and computer technology in the same word. It is the technology that is driving what has often been called "the information revolution."

L1: First language. An L1 learner, in the context of this study, would speak English as a first language.

L2: Second language. An L2 learner, in the context of this study, would speak English as a second language.

Listserv: A small program that automatically redistributes e-mail to all names on its mailing list. Users can subscribe by sending an e-mail note to a particular list they learn about, and all members on the mailing list receive each other's correspondence. By joining and participating in a listserv, second language teachers can discuss C-MC projects with educators all over the globe and locate potential exchange partners.

MODEM: Acronym for a Modulated Demodulator. A device that changes digital signals to analogue signals and vice versa so that a computer can be hooked up to a phone line and send messages for e-mail and other purposes.

National Curriculum: A centrally planned curriculum adhered to by schools of a particular country or region.

Online: Meaning actively connected to the Internet or engaged in Internet use, such as "online" purchasing or "online" chatting.

Pedagogical Technique: The form used to present material to be learned, for example, lecture, panel and group discussion (Boyle, 1981, p. 213). In this study, a pedagogical technique is defined as a manner of accomplishing teaching objectives. The techniques can be classified in different ways, depending on how it involves student interaction with learning resources, for example: one-alone, one-to-one, one-to-many, many-to many, or even "student-directed" versus "teacher-directed."

Semantic Mapping: Ideas are graphically mapped out on the chalkboard in logical "webs" or clusters, while showing interrelationships and hierarchy of thought.

Telecollaborative: Using the Internet and telephone technology (a modem) to accomplish collaborative learning goals.

1.8 Thesis Structure

The following is a brief description of my dissertation structure in the pages to come. Chapter 2 (Review of the Literature) focuses on three converging aspects of this study: research on current theories and methods for modern language learning, the history of educational computing, and research on Computer-Mediated Communication (C-MC) in the second language classroom. Chapter 3 (The Model) provides practical details about the Hong Kong-Green River collaborative e-mail exchange, including its theoretical basis, pre-project planning strategies, technology coordination and project specifics. Chapter 4 (Methods) includes an explanation of methodological approaches used, case selection, instrumentation, description of project site and participants and a list of key research goals and questions that guided this study. Chapter 5 (Data Analysis) examines both quantitative and qualitative data gathered through a variety of research instruments. These data are used to evaluate my instructional model, as well as to gain insight into student perceptions, beliefs and attitudes about the C-MC exchange, as addressed under subheadings for

each major research goal or question that guided this study. Finally, Chapter 6 (Discussion and Findings) focuses on the results of qualitative and quantitative data gathered, and their research implications for the ESL classroom.

1.9 Summary

With the arrival of new technologies and new instructional paradigms, ESL teachers naturally want to examine how these two, powerful forces can be harnessed to promote English language proficiency. While doing so, it is important to study not only student outcomes and test results, but additionally, the way secondary ESL students, themselves, feel and think about the marriage of technology and new learning paradigms.

The following chapter (Review of the Literature) will focus on research in these two overlapping fields (modern approaches to language learning and educational computing), while investigating a third, shared layer—the specific use of C-MC with second language students, paying special attention to student reactions and outcomes in several key areas such as spoken and written communication, social learning, class power structures, motivation and emotional factors like anxiety and comfort level.

Chapter 2

REVIEW OF LITERATURE

The biggest challenge facing teachers today in relation to networked computer technology, is not whether to use it in the classroom—it is already there—but how to use it to teach effectively and make a real difference in student learning (Cooper and Selfe, 1990). There is a growing body of literature on the topic which began in the early 1990's with anecdotal accounts from classroom teachers, that has now grown to include empirical studies from both quantitative and qualitative traditions of inquiry (Coski and Kinginger, 1996).

However, studies about the Internet in second language classrooms—specifically research involving collaborative e-mail projects—has lagged behind similar studies in first language classrooms. Warschauer (1996b) attributes this to the fact that such research requires assessing decentralized, autonomous communication that takes place over the course of a semester or longer, and that communication is often initiated outside the normal class place and time (p. 16). Nevertheless, the situation is rapidly changing. Chaudron (1988) finds that the body of research on second language learning and the Internet has grown "exponentially" (p. 1). The dearth of research that marked the early 1990's is now being filled by studies from a variety of disciplines, including applied linguistics, psychology, CALL (Computer Assisted Language Learning), computer science and a host of other related fields.

The Internet has become so pervasive in schools and homes in the USA, Hong Kong and many other countries—at prices that virtually everyone can afford—that it is just a matter of time before second language teachers broadly implement telecommunication-based projects into their curriculum. However, experts (Cummins and Sayers, 1990, 1995; Garrett, 1991; Hoy, 1988; Stoks, 1993; Warschauer, 1996b) caution that teachers who put computer technology to use must do so in the service of good pedagogy. There is still a critical need for research on the marriage of good pedagogy and networked computer

technology. This research must also examine theories and approaches to second language acquisition in order to understand which ones best complement learning goals of ESL learners when used in tandem with telecollaborative projects.

In order to examine the integration of second language learning and computer technology, I first introduce a brief, historical background of these two distinct fields and their related extensions, including the evolution of pedagogical techniques in each area. In the case of ESL instruction, I offer background on several modern and widely accepted theories, methods and approaches for teaching second language. In the field of technology, I examine the history of educational computing and Computer Assisted Language Learning (CALL), as well as maturing pedagogues for computer-based language teaching, C-MC and long-distance, collaborative networking with e-mail. This is followed by discussion on how these two fields have recently overlapped for educational purposes—particularly in the ESL classroom—and have produced new, integrated models and paradigms for collaborative, critical inquiry and language learning.

2.1 Modern Approaches to Language Learning

One of the goals of this research was developing and evaluating an academically sound e-mail exchange, based on modern approaches to language learning. In order to do this, I first examined approaches that were considered pedagogically "exemplary" or "state of art" among ESL practitioners—regardless of the mode of instruction being "high tech" or "traditional."

Modern approaches to language learning embrace an eclectic mix of theory, methods and approaches. Some of the most current and widely accepted theories include the Comprehensible Input Theory and Collaborative Learning Theory. Among pedagogical methods, Process Writing and Project-Based Learning (PBL) are both standard and well received and in modern language teaching circles, as is the Communicative Language Learning (CLL) approach.

Due to space limitation, I will not go into elaborate detail for each theory, method or approach, but instead, will offer the reader a brief introduction to each. Later in Chapter 3, I will discuss how each of these pedagogical techniques can be integrated into a collaborative e-mail exchange for the purpose of teaching English.

2.1.1 Krashen's Theory of Comprehensible Input

Krashen's Input Hypothesis on "Comprehensible Input" (1982) is one of the most widely accepted language acquisition theories today. Krashen posits that good input, that is "comprehensible input," is the only source of acquired knowledge of language. Thus, learners needs to comprehend the input's semantic and pragmatic functions in order to meet a particular goal. At the same time, input should provide new data for the learner's developing system. Chaudron (1988) and Larson-Freeman and Long (1991) have expanded Krashen's theory, claiming that language learning activities should create opportunities for comprehending linguistic input by modifying the normal structure of interaction. The most common methods of modification involve simplification, elaboration, added redundancy, comprehension checks and sequencing.

Krashen identifies three variables that affect input: anxiety, motivation and self-confidence. He describes the ESL student's emotional state as an adjustable filter that can enhance or discourage language acquisition, depending on these variables. Students who are anxious, lacking motivation or self-confidence have high *affective filters*, which may inhibit language acquisition. Alternatively, language activities that lower a student's *affective filter* (by decreasing anxiety and increasing motivation or self-confidence) can promote student learning.

Although Krashen's theory is widely accepted, it is not without criticism. Gregg (1986) finds that Krashen does not thoroughly explain the language acquisition process, while White (1987) claims that Krashen overestimates the role and benefits of simplified input, although he believes his theory should not be abandoned, but rather, "tightened up" and refined (p. 116). Swain (1985, 1995) in her work on Canadian immersion classes, additionally believes that

input ins not the only factor in language acquisition, but that output is equally important.

2.1.2 Collaborative Learning Theory

There is a closely argued school of thought that learning, in addition to being active, is a social activity, and that people construct and reconstruct their worlds during social interaction (Beckwith, 1987; Carley, 1986; Davies, 1988; Mead, 1962; Vygotsky, 1978). Proponents of this "school" view social interaction as a means to promote cognitive development—a notion sometimes referred to as the constructivist position (Crook, 1987). This position holds that learning is constructed collaboratively through interaction with classmates and teachers, rather than through individual exercise in memorization. Bruner (1986) sums up by saying "...language of education is the language of culture creating, not of knowledge consuming or of knowledge acquisition alone" (p. 133).

Proponents of the constructivist argument examine various proponents of social learning. Davies (1988), for example, finds that the focus of social learning can either be on the individual actively constructing his world in society, or together with others, using interactive technologies or in a particular group context (p. 206). Carley (1986) posits that individual knowledge acquisition is limited, and that culturalization of information "increases the ease of information transmitted within society" (p. 433).

The method of "cooperative learning," which will be examined in the following pages, stems from the constructivist theory of social learning.

2.1.3 Cooperative Learning

Cooperative Learning is an instructional method involving the active sharing of information and intellectual resources among students in one or various groups (Klemm and Snell, 1995). Studies comparing the relative effects of cooperative, competitive and individual efforts on instructional outcomes began in the late 1800's, but the primary foundation for modern work in the field emerged in the 1940's, when Morton Deutsch, building on the theories of Kurt Lewin, proposed a theory of competition and cooperation (Johnson, Johnson

and Holubec, 1994b). Later in the 1970's, scientists from the fields of psychology, sociology and social work studied ways in which problem solving and creativity could be enhanced by structuring behavior of individuals working in small groups. This work eventually became known as the field of "group dynamics," which in the late 1970's and early 1980's evolved into the body of related educational research we know as "cooperative learning" (D.W. Johnson, *et. al.*, 1994, p. 53).

Numerous experimental and correlational studies on cooperative learning and student achievement have been conducted over the past century, the results, for the most part, pointing to a profusion of positive student outcomes. For example, students in language arts courses will achieve more, retain more in long-term memory, use higher-level reasoning strategies more frequently and are better able to apply what they learn to the real world when they learn in cooperative groups rather than competitively or individually (D.W. Johnson, *et. al.*, pp. 11-12). Stahl (1994, p. 9) provides a litany of additional student outcomes that are typical (although not always present) during cooperatively taught lessons:

- Higher scores on academic tests, especially those aligned with targeted objectives
- Higher levels of intrinsic motivation to learn
- Less disruptive individual and group members
- More and higher quality on-task, academic and group interaction behaviors
- Positive attitudes necessary for working effectively with others
- More positive attitudes toward teachers, principals and other school personnel
- More positive attitudes towards learning, school and subject-matter content
- More willingness to share and interact positively within group settings
- Greater numbers of friendships based on human qualities
- More positive relations with individuals of different ethnic or racial groups

Cooperative learning requires a different structure of teacher/student interaction and instruction than that used in traditional classrooms, shifting the emphasis from a teacher-centered to a student-centered model (D. W. Johnson,

et. al., 1994). Learning is seen as an active process rather than a passive experience. Social exchange is also believed to help students actively construct personal knowledge through discussion, argument and negotiation with others.

Over the years, a list of "ingredients" for cooperative learning activities has been suggested by various researchers (Johnson and Johnson, 1989, 1994b; Johnson, Johnson and Holubec, 1994a; Stahl, 1994). The exact name, number and order of ingredients vary from author to author, but the key elements remain the same. Stahl's summary (1994, pp. 11-13) includes the following:

1. *Positive interdependence:* Teachers must structure learning tasks so that students feel that they "sink or swim" together
2. *Face-to-face interaction:* Direct eye contact is required for academic conversations, reinforcing the notion of positive interdependence
3. *Individual accountability:* Each student within a group must be held individually responsible for doing his or her own share of the work and for mastering learning goals. To meet this requirement, each student is formally tested on content
4. *Public recognition and rewards for group academic success:* ample rewards are given to all groups who meet or surpass high levels of achievement in targeted areas. Although the specific rewards vary, they must be something valued by students
5. *Heterogeneous groups:* Teachers must organize three, four or five-member groups in a way that insures a good mix of ethnic backgrounds, race, socio-economic levels and gender, rather than allowing students to form groups based on friendships or cliques. This allows students to become tolerant of diverse viewpoints
6. *Social interaction behaviors:* Leadership, trust building, communication, conflict management, constructive criticism and encouragement are required behaviors. Teachers may have to describe these behaviors in detail to ensure that students consciously work towards them
7. *Postgroup reflection (debriefing):* After tasks have been completed, students spend time to reflect upon how they worked together as a team and how well they achieved group goals

Klemm and Snell (1995, p. 9) offer several other strategies for cooperative learning, including team building activities and assigning well-defined student roles such as "leader" (leads the cooperative group throughout their task), "concept list editor" (edits, consolidates and refines the collection of principles that each member submits), "researcher" (helps group members find needed clarification and information about the assignment), "insight-paper editor" (edits and critiques each member's written work) and "quizzer" (quizzes group

members to check for understanding). They also advocate group-based evaluation to reinforce the philosophy that each learner is responsible for the learning of everyone else in the group.

2.1.4 Project-Based Learning

Project-Based Learning (PBL) is a long-established teaching tool that has recently been enhanced by the routine use of Instructional Technology (Moursund, 1999). In its most basic form, it is a problem or task oriented approach that helps students gain expertise in a particular area, while encouraging them to solve challenging problems or accomplish challenging tasks. For example, students working on a historical newspaper might perform the tasks of researching, writing, giving and receiving peer feedback, desktop publishing or making presentations for the whole class. Benefits attributed to PBL include increased problem-solving ability (Harris, 1994a, b and c, Moursund, 1996; Perkins, 1992), improved library research skills (Breivik & Senn, 1994), increased collaboration (Johnson, 1989) and increased motivation (Warschauer, 1996b).

There is no universally agreed upon definition of PBL, although it is commonly used in conjunction with cooperative or collaborative learning in a team environment that stresses both self- and peer assessment (Moursund, 1999, p. 13). Other goals of PBL include improving higher-order thinking skills, joining a community of scholars and utilizing computers for desktop publication and presentation (pp. 7-8).

2.1.5 Communicative Language Learning

The Communicative Language Learning (CLL) approach involves the culmination of several second language acquisition theories, principles and procedures, rather than being associated with one particular founder (Butler-Pascoe, 1990) and is embraced by a great number of second language educators and researchers today (Brown, 1987; Kasper, 1986; Lee, 1995; Richards and Rodgers, 1986; Savignon, 1983; Taylor, 1987; Underwood, 1984).

Richards and Rodgers (1986, p. 71) identify several theoretical tenets of CLL methodology:

- Language is a system for the expression of meaning
- The primary functions of language are interaction and communication
- The structure of language reflects its functional and communicative uses
- The primary units of language are not merely grammatical and structural components, but categories for functional and communicative meaning, as exemplified in discourse

Brown (1987) posits that the ultimate goal of CLL is actual use of the language in unrehearsed situations. Taylor (1987) adds that communicative classrooms should engage students in authentic communication through meaningful and motivating activities to master specific tasks. Examples of these activities can include information gap tasks where students exchange information not previously known to all the participants and unrehearsed communication where there are choices to be made and goals to be accomplished (Johnson, 1989). However, Hymes (1972) cautions that there is a marked difference between communicative competence—exemplified in terms of performance, and grammatical competence—the "tacit knowledge of language structure" (p. 271).

I have now offered a brief introduction of several theories, methods and approaches that form the cornerstones of modern second language teaching today. I now explore a third, widely-accepted theory—that of process writing—in terms of its historical evolution in the course of second language composition history.

2.2 Second Language Composition History

The history of second language composition from about 1945 to the present—the beginning of the modern era of ESL instruction—can be viewed as a series of approaches or orientations that rise and fall with popularity, but never really disappear (Silva, 1990). "Controlled" or "guided" composition, the first approach originating in the 1940's, viewed writing as mere habit formation and reinforcement of oral speaking patterns (Fries, 1945). Emphasis was placed on memorization of correct patterns to build grammatically correct sentences, and

writing was seen as the "handmaid of other skills" (listening, speaking and reading), not worthy of being developed on its own (Rivers, 1968, p. 241).

In the 1960's, several theorists departed from this narrow view by promoting free composition or writer-originated discourse (Erazmus, 1980, Briere, 1996; Murray, 1985). However, free composition was soundly rejected by others (Pincas, 1962) who insisted that imitation of fixed writing patterns, rather than originality and student-selected topics, would promote fluency.

In the mid-sixties, an increasing awareness of ESL student needs led to the development of "current-traditional theory," which focused on construction of the paragraph, as opposed to memorization of correct grammar at the sentence level (Silva, 1990, p. 13). Emphasis was placed on elements of the paragraph such as topic sentences, supporting sentences and transitions, as well as options for paragraph development (exemplification, illustration, comparison, contrast, classification and analysis). It also focused on organizational patterns or modes such as narration, argumentation and description. However, the major function of writing was still seen primarily as "fitting sentences and paragraphs into prescribed patterns . . ." (p. 14).

In the early 1980's, critics of current-traditional theory sought pedagogical methods that encouraged creative thinking and writing. Rather than seeking control and mastery of sentence formation, they advocated expressing ideas and conveying meaning (Raimes, 1983). They saw writing as a manageable, changeable process, rather than a product (Johns, 1986a). An emerging set of beliefs postulated that students could be guided through a process by which they could work through their composition and develop viable strategies for getting started, focusing, planning, drafting, modifying and rearranging ideas and words on the substantive, organizational and grammatical levels. In addition, students were encouraged to focus on expression and meaning, over form. These ideas slowly evolved into the methodology we know today as "process writing."

2.2.1 Process Writing

The process writing movement is perhaps the most important theoretical addition to the body of literature on student writing models for L1 and L2 writers

over the past few decades (Phinney, 1989). Coupled with the revolution of microcomputers as a new tool for composing and revision, the two are a powerful team. The Writing Process, in fact, has become so popular that some researchers refer to it as a paradigm shift that has revolutionized writing theory (Hairston, 1982; North, 1987). Since its inception in the early 1960's, process writing has not lost popularity (Grabe and Kaplan, 1996, p. 87).

The writing process is a recursive procedure involving pre-writing, planning, drafting, evaluating and revising. Although the writer works through an individual cognitive process, he/she does so in a social context. Translated into classroom practice, this means that the composing process takes place in an encouraging, student-centered and collaborative workshop environment. Spack (1984, p. 651) describes the principal tenets of process writing for first language writers:

- Writing is a teachable, recursive operation and more attention is placed on the process rather than the final product
- Writing is valued as a means of learning and communicating
- Concepts and principles from research in the fields of cognitive psychology and linguistics are incorporated into the process writing paradigm
- Writing is taught in a context, with a focus on purpose, audience and occasion
- Evaluation of writing is an on-going process, and feedback is given by the teacher at regular intervals during the process
- Evaluation of student writing considers the extent to which the needs of the reader are being met by the writing
- Teachers are active writers, and writing is seen as a natural, shared process

Moursund (1999) lists six essential steps for process writing: (1) brainstorming, (2) organizing the brainstormed ideas, (3) developing a draft, (4) obtaining feedback, (5) revising and (6) publishing. Raimes (1983) lists several others, including identifying audience, purpose and proofreading, while noting that the number and order of steps used should reflect individual class needs and available time (Raimes, p. 21).

2.2.1.1 Process Writing and Second Language Learners

The history of ESL composition instruction has been greatly influenced by research in L1 (English as a first language) composition (Berlin, 1987; Raimes, 1983; Spack, 1984; North 1987; Silva, 1990). However, the idea of process writing, which "took off" in L1 classes, took much longer to trickle down to L2 classrooms (Krapels, 1990). Raimes (1979) first recommended process writing for ESL students in order to focus on communication rather than surface-level errors. Later, other researchers discovered that L1 and L2 writers shared similar experiences with writing in general, and hoped that successful L1 composition strategies (like process writing) could be similarly applied to second language composition (Johns, 1986b, Raimes, 1987; Spack, 1984; Zammel 1983).

Raimes (1987), for example, reports that composing strategies were similar for L1 and L2 students when she compared remedial and non-remedial ESL writers to a similar study of native writers (Pinako, 1979). However, she notes that ESL students need more rehearsal time for ideas and language use, and have less tendency to prematurely edit. Zammel (1983) finds that differences between L1 and L2 writers are related to composing proficiency rather than to their first languages, and Johns (1986b) reports that L1 and L2 learners can be taught to use similar techniques to overcome writing difficulties.

The initial findings on similarities between first and second language learners have encouraged further investigation into the application of process writing for L2 students. Although several studies on English composition report that L1 and L2 writers are somewhat different in certain areas (Raimes, 1987; Arndt, 1987), L2 composition researchers have generally adopted L1 writing process research designs, and more often than not, "their findings have concurred with those of their L1 counterparts" (Krapels, 1990, p. 38). Although process writing has not yet gathered broad-based support among ESL instructors, (Silva, 1988) interest in its parallel application in L1 and L2 classrooms is widespread. In fact, teaching writing as a manageable and changeable process, remains a "powerful idea" for many ESL teachers and students (Benson and Heidish, 1995, p. 317).

2.2.1.2 Process Writing and Asian Students

Studies on process writing and Asian students are marked by inconclusive results. Pennington, Brock and Yue (1996) evaluated secondary student reactions to their English teachers' use of process writing at several Hong Kong secondary schools. The writing was carried out over a six-month period, and the teachers (who were native Cantonese speakers) allowed classroom discussion in Cantonese so that all students could fully participate in developing ideas.

Two groups of academically achieving all-girl classes judged the process writing experience as largely positive. Students in these groups became more confident in English literacy skills, reporting less difficulty reading and writing English and less trouble organizing ideas and finding the right words to express on paper. However, results from the four other classes showed mixed reactions. Although students in the "most negative class" reported having less trouble with the organization of ideas when writing in English, they also expressed negative feelings about working with classmates in a group setting and complained about the need to write a lot in order to improve their English (Pennington, *et. al.*, pp. 236-237).

Another survey of 81 academically-oriented ESL learners—seventy from East or Southeast Asian countries—found that students overwhelmingly preferred teacher feedback to peer feedback on process writing assignments (Zhang, 1996). This finding stands in sharp contrast to the theoretical stance borrowed from L1 writing, asserting that peer response is preferable to teacher feedback because it allows students to gain a wider sense of audience, learn more about writing and revision and enhances positive attitudes (Chaudron, 1984).

2.3 Bridging Modern Language Learning and Computer Technology

The theories, methods and approaches listed above offer a brief introduction into modern language learning techniques that have been tried, tested and generally embraced over the past few decades. But what are the new, integrated models and paradigms for computer-based language learning,

and should they rely on the same pedagogues as those found in traditional language teaching?

To find this out, I first examine the history of educational computing and its subsequent developments in CALL (Computer Assisted Language Learning), long-distance collaborative networking and C-MC (Computer-Mediated Communication) to better understand how to "harness the power of the computer" in language classrooms (Beauvois, 94-5, p. 177) to accomplish linguistic goals and maximize ESL student outcomes.

2.4 Educational Computing

Although computers have been used in education since the early 1960's, they were not introduced into classrooms in any great numbers until two decades ago. In the late 1970's, the widespread use of personal computers had a profound affect on education, prompting teachers to look for new ways to help students learn. As the Internet became broadly available in the 1990's, teachers saw networked computer technology as a means for students to collaborate and learn with students from all corners of the globe. At the same time, they began to examine the history of educational computing and how modern educational paradigms—particularly those like cooperative learning—could be applied in ways that would maximize student outcomes.

2.4.1 History of Educational Computing

Maddux (1993) identifies three historical stages that educational computing has gone through in the past forty years. These stages have not occurred in strict chronological progression, but rather as overlapping periods that never entirely replaced previous ones.

"Stage one," beginning in the 1950's is sometimes referred to as the computer literacy movement. During this time, teachers and researchers believed that mere exposure to computers would produce widespread national and educational benefits, including the honing job skills, bolstering national interests in the case of the USA, and producing world leaders in science and technology. Experimental research on educational benefits of computers was

rare, and professional journals were dominated by position papers and personal testimonials of the importance of computer familiarization.

Towards the end of stage one, it was realized that too much emphasis had been placed on computer programming, as there were only about 20,000 programming jobs in the USA for the 40,000,000-plus students in the school system (Maddux, p. 16). It was also recognized that national interests were more closely linked to business management decisions, foreign trade, labor problems and over-reliance on foreign oil, rather than schooling in computer familiarization.

During "stage two," emphasis was placed on student exposure to specific computer applications rather than general exposure. Although interest in computer programming remained strong, research became more sophisticated and followed experimental designs that examined how computers improved cognitive or performance tasks. Research designs often involved students in "control" groups learning without computers and those in "experimental" groups learning with computers. However, little attention was given to learner or teaching variables.

Maddux believes that we are presently at the beginning of "stage three," which is marked by a change in research questions about the role of computers in education. Rather than asking whether exposure to computers has national or general benefits (stage one), or asking whether learning a specific application improves cognitive or performance tasks (stage two), we are now asking "how learners and learning variables interact with teaching variables," and how "specific computer applications complement specific educational goals" (p. 18).

2.5 Development of CALL (Computer Assisted Language Learning)

The term CAI (Computer Assisted Instruction) covers a wide range of computer uses for instructional purposes. One of these specific purposes is CALL, or Computer Assisted Language Learning. I have divided up the following discussion on CALL by its major, chronological stages of development, including "Origins of CALL," "Behavioristic CALL," "Communicative CALL," "Integrative CALL" and finally, "The Future of CALL."

2.5.1 Origins of CALL

CALL was conceived in the 1950's during the first stage of educational computing, and was implemented in the 1960's with the commencement of the PLATO project (Programmed Logic for Automated Teaching Operations)—a large system developed at the University of Illinois to teach a Russian reading course. The program included direct translation drills, vocabulary, brief grammar explanations and translation tests measuring students' comprehension of written Russian (Ahmad, *et. al.*, 1985).

Another pioneering CALL effort in the mid-1960's was the Stanford Project at Stanford University, led by Van Campen in the Slavic Languages Department. Focusing first on the Russian language, Van Campen introduced a computer-based introductory course that was self-instructional: most of the teaching material was on the computer. The project was later expanded to include courses in Old Church Slavonic, Bulgarian, History of the Russian Literary Language and Armenian. Later in the 1970's, significant CALL projects were established at the University of Essex in England and Dartmouth College in New Hampshire.

2.5.2 Behavioristic CALL

Early CALL applications were primarily "drill-and-practice" models (often referred to pejoratively as "drill and kill") of programmed instruction, which at the time were considered "optimal models for courseware design in language learning" (Ahmad, *et. al.*, 1985, p. 36). They were based on behaviorist learning theories of the day—most notably those of B. F. Skinner from his influential book *Verbal Behavior* (1957), focusing on learning by stimulus, response, reinforcement and repetition. It was assumed that if learning could be reduced to its lowest common denominator, language could effectively be taught as a series of pre-planned, discrete steps. In this way, drill-and-practice software could "satisfy the students' need for the sustained, tedious (i.e., boring) kind of teaching that many teachers preferred not to do in class" (Stevens, 1989, p. 32).

2.5.3 Communicative CALL

The advent of the microcomputer boom in the late 1970's, coupled with a revolution in language teaching and learning, dramatically changed the course of CALL. As Skinner's theories went out of vogue in the 1980's, innovative language teachers began looking towards the microcomputer as a new tool for composition, revision and language learning. The language acquisition theories of Krashen also had a profound influence on CALL development. Krashen (1982) hypothesized that if emphasis were placed on communication, grammar would be acquired naturally by assimilation of linguistic data processed from comprehensible input. Therefore, communication in a realistic, contextualized setting was paramount for learning. As a result, language teachers began exploring for ways for students to communicate in authentic environments, rather than pre-planned, non-contextualized lessons. This notion became known as communicative CALL.

2.5.3.1 Communicative CALL Models

Warschauer (1996b) lists three different models of communicative CALL as it struggled to define itself in the early and mid-1980's: *the computer as tutor, the computer as stimulus* and *the computer as a learning tool.*

The first efforts towards communicative CALL involved a variety of programs used to provide skill practice without the "drill and practice format," including courseware for paced reading, text reconstruction and language games. These programs fell under the *computer as tutor* model, since the computer remained the "knower-of-the-right-answer" (Taylor and Perez, 1989, p. 3). Later, the *computer as stimulus* model evolved (Taylor and Perez, p. 63) and the function of CALL was seen as stimulating student discussion, writing, or critical thinking, rather than students discovering the "right" answer. Software included a wide variety of programs such as *SimCity*, *Sleuth* or *Where in the World is Carmen San Diego*—programs not specifically designed for language learning, but that had the same end result (Healy and Johnson, 1995). Most recently, the *computer as tool* model has evolved (Brierly and Kemple, 1991; Taylor, 1980), encouraging learners to use and understand language without necessarily providing direct language teaching materials. Instead, the computer

is used as a word processor for spelling and grammar checks, desktop publishing programs and concordancing.

Underwood (1984, pp. 52-54), one of the early proponents of communicative CALL, defines its pedagogy and purpose:

- focus more on using forms rather than on the forms themselves
- teach grammar implicitly rather than explicitly
- allow and encourage students to generate original utterances rather than just manipulate prefabricated language
- does not judge and evaluate everything the students do, nor reward them with congratulatory messages, lights or bells
- avoids telling students they are wrong and is flexible to a variety of student responses
- uses the target language exclusively in an environment that feels natural, both on and off screen
- never tries to do anything that a book can do just as well

Raschio (1986), another early advocate of communicative CALL, asserts that use of language is more important than its usage, and CALL should help learners generate original language in response to situations presented by the computer program. He also notes a new phenomenon that caught hold in the late-80's—the use of word processing with LANs (Local Area Networks) or WANs (Wide Area Networks) for sharing e-mail messages between foreign classes.

2.5.3.2 Integrative CALL

Although communicative CALL seemed to make significant advances over its behaviorist predecessor, by the end of the 1980's, many educators still felt that it was failing to live up to its potential (Kenning and Kenning, 1990; Pusack and Otto, 1990; Rschoff, 1993). Even in the early 1990's, CALL was generally associated with specially authored software and CD-ROM's for teaching language, and critics argued that it contributed mainly to "marginal" rather than "central" elements of the language teaching process (Kenning and Kenning, p. 90).

In response, educators began seeking ways to teach CALL in a more integrative manner, for example, using task-based or project-based approaches

with multimedia computers and the Internet. Many teachers moved towards a more social or socio-cognative view that placed greater emphasis on authentic language use in social contexts (Warschauer and Healey, 1998). There eventually came a division between advocates of traditional CALL activities and those expanding CALL to encompass Computer-Mediated Communication and telecollaborative projects via the Internet.

2.5.3.3 The Future of CALL

In January of 1998, NETEACH, one of the major Listservs for CALL practitioners, focused its discussion on a provocative topic statement written by member John Willetts, entitled "Is CALL Dead?" The message read as follows:

> "CALL (Computer Assisted Language Learning) had reached its maturity (it is now about 10 years old). I would suggest that the majority of language teachers have voted with their feet and that traditional CALL—using specially authored software and CD ROMS—has been found to be of little practical value in the teaching of English apart from its marginal use for self-study and that its proponents only have a personal/financial/professional (but not pedagogic) interest in its perpetuation" (Willetts, p. 1, Jan. 11, 1998).

The responses to Willetts' statement were varied, although they confirmed serious questioning of traditional CALL by many practitioners (NETEACH Archives, 1998, pp. 1-25). Some respondents felt that traditional CALL was dormant, but still had future potential in the fields of voice recognition, virtual reality, artificial intelligence programming and adaptive programming (Seelye, Jan. 11th; Greenman, Jan. 11th; Cady, Jan. 12th). Others favored newer, Internet-centered CALL applications like collaborative e-mail projects and MOOs (Multi-Oriented Object) games (Steele, Jan. 12th; Bicknell Jan. 12th; MacKichan, Jan. 14th; Ried, Jan. 12th and 13th). A third faction stood firmly in favor of traditional CALL—insisting that specific software and CD ROMs were enjoyed by students and helped them hone important skills (Tuncan, Jan. 11th; Bakin, Jan. 12th; Harding, Jan. 13th; Seaver, Jan. 12th).

In an eloquent essay focusing on the rapidly changing field, Ried (1998) urged practitioners to accept the latest step in CALL's evolution:

> "CALL represented our first attempt to grapple with the Digital age with its global perspective. However, to remain relevant as English language teachers in the Digital era, I think we will have to re-examine the way we currently organize our industrial age language classrooms. This reorganization will involve computers, but in a new and I think far more exciting way. . .. In this model of classroom

> organization, students are required as a part of a curriculum-focused outcome, to access, via the Internet, information, or collaborators on another PC in another room, country or continent, in an effort to solve a problem. The idea is to expose students to a global view of information and communication using Internet-related technologies as part of traditional classroom activities" (p.13).

Other CALL professionals (Warschauer 1996b; Levy, 1997) insist that use of e-mail and the Internet do not represent a break with CALL as it has been traditionally conceived and practiced, but represent an additional layer of computers being used as a tool to assist both language learners and teachers.

2.6 History of E-mail

Electronic mail was first developed in the 1960's by US military officials exploring how communications could be carried out in a nuclear war. They needed a system that was fast, reliable and decentralized in case centralized communication institutions were destroyed. E-mail was the answer to their needs. Unlike hierarchical computer systems where each computer was dependent on another to properly function—e-mail computer networks treated each computer within in the system the same way, so that if one or more computers malfunctioned, the others could circumvent the problem.

In the early 1970's e-mail was limited to the US military, defense contractors and universities doing defense research. Later in the decade, it made its way into university communities for purposes of research collaboration, and by the 1980's, it was widely used by academics in a number of fields. It is estimated that by the 1990's, 25 million people throughout the world were using e-mail (Warschauer, 1995b, p. 5).

The most recent interest in educational e-mail involves long-distance, collaborative projects, surveys, studies and communication opportunities between students and teachers in a variety of countries and cultures around the world.

2.7 History of Long-distance, Collaborative Networking

The foundations of long-distance, collaborative projects were laid decades ago by European educational pioneers Célestin Freinet and Mario Lodi, who are now associated with the Mouvement l'École Modern (Modern school Movement)

in Europe. Without the aide and ease of modern telecommunications equipment, these two educators were able to organize "the largest technology-based community of learning in history" (Cummins and Sayers, 1995, p. 139).

In the 1920's, Freinet, a public school teacher in southern France, initiated regular contact with a partner class in the Brenton alpine region. Students in both schools printed their writings with a printing press and mailed news articles every other day to their distant colleagues. Every week, the classes exchanged cultural packages, often containing articles from their respective villages, such as flowers, fruits, seashells, fossils, photos, toys or costumes. When Freinet wrote in his diary dated October 28, 1924, "*Maintenant, nous ne sommes plus seuls,*" (now we are no longer alone) it marked the beginning of the history of global learning networks (1924).

In the 1950's and 1960's, two Italian elementary school teachers, Mario Lodi and Brono Ciardi, initiated a collaborative exchange based on Freinet's model. Using state-of-the-art printing machinery—typewriters and mimeograph machines—students became responsible for publishing a near-daily collaborative, student-written and student-edited newspaper for fellow students, parents and subscribers in ten countries.

Freinet and Lodis' exchange was similar to present-day collaborative e-mail projects: community-based learning "twinned" or pared with a "sister class" or a network of partners based on common interests or age groups, and using "modern technology to enhance learning" (Cummins and Sayers, p 139).

2.8 Computer-Mediated Communication (C-MC)

The term C-MC has recently become popularized to describe collaborative computer projects shared between distant partner classes (normally through e-mail, "chat" programs, electronic bulletin boards or Listservs), although technically, the definition is a more general one involving the act of communication between two or more people through the medium of the computer. Communicating parties can be located in a multitude of places such as different continents, countries or cities, and exchanges can be of a personal, professional or educational related nature.

C-MC projects require the use of either local area networks (LANs) or wide-area networks (WANs). A LAN is a network of interconnected computers joining a relatively small geographic area like a classroom, office, computer lab or school. It enables users to share various computer applications such as databases and word processing programs. A WAN is an interconnected network of computers connecting writers to distant interlocutors who might be in different schools, cities and countries or on different continents.

The following discussion examines the nature of C-MC dialogue in terms of response time between sender and interlocutor, as well as its relationship to both written discourse and "spoken" text. It further examines the recent introduction of C-MC into the classroom—specifically the second language classroom—where teachers have experimented with a variety of maturing pedagogues for collaborative, computer-based language teaching.

2.8.1 The Nature of C-MC Dialogue

Computer-Mediated Communication can take place as synchronous (simultaneous) or asynchronous (time-staggered) communication. Asynchronous communication is the most common form used for collaborative e-mail projects. In this case, the interacting parties do not see each other's mail at the moment it is written, but collect it later at their convenience from a mailbox where it is stored on their e-mail program. Synchronous communication, on the other hand, allows the sender and interlocutor to exchange e-mail at the same time in the form of a "live chat" made possible by special software. In other words, a sender can type a question to his/her distant partners and receive a typed answer instantaneously.

There are several caveats inherent to using synchronous communication with ESL students. Language teachers like myself, often prefer students to pre-compose their work, subjecting it to the process of drafting, rewriting and peer review, rather than having it composed "on the spot" and under pressure of giving a quick response. In addition, students located in different time zones often have difficulties in establishing common schedules for synchronous "chats" during school hours. For these reasons, synchronous communication was not used during the course of our e-mail project.

2.8.2 The Nature of C-MC Text: Spoken Vs. Written Discourse

Electronic Text has sometimes been described as two traditional communication modes: spoken and written. Although it appears in black and white print as other forms of written communication, its informal nature has been rendered akin to verbal discussion (Burton, 1994; Murray, 1987). Other researchers claim that although it is a "hybrid" of writing and speech, it more closely resembles written text because it can be edited before being sent and because it contains features of elaborate written language (Ferrara, *et. al.*, p. 10, 1991; Baron, 1984). Electronic text differs markedly from traditional written text in that it contains more surface errors and informal usage of language than handwritten letters (Ferrara, 1991). It is also marked by non-standard grammar and spelling and shorter expressions with simplified spellings (Maynor, 1994), and occasional bluntness in the form of "flaming"—the use of vulgar language or inflammatory language (Kinkead, 1987).

2.9 Computer-Mediated Communication in the Classroom

The use of C-MC in the classroom is a fairly recent phenomenon (Trenchs, 1993, p. 9). It has been used for a variety of specific instructional purposes, including the exchange of feedback, interpersonal communication, sharing of texts and research findings, team teaching and joint publishing.

Warschauer (1996b) describes classroom-based C-MC as a "powerful new medium of human interaction," (p. 3) and Harnad (1991) describes it as bringing about "the fourth revolution in the means of production of knowledge," on par with the "three prior revolutions in the evolution of human communication and cognition: language, writing and print" (p. 39).

There is a litany of reasons why C-MC use with students has been showered with praise. Being a text-based medium, C-MC is time- and place-independent. Communication can be accessed over time (or instantaneously) by different people in different parts of the globe, and has the potential for either many-to-many or individual communication. C-MC allows students to interact communicatively—a role which has "historically been fulfilled by speech" (Warschauer, 1999, p. 3), and it is easily transmitted, stored, archived, re-

evaluated, edited and re-written in ways that cannot compare to traditional letter writing. When coupled with a many-to-many communication (international class exchanges, for example), it creates "an unparalleled opportunity for grassroots global interaction" (p. 4).

Warschauer (1996b) credits C-MC as a "step towards Integrative CALL" and "probably the single computer application to date with the greatest impact on language teaching" (p. 5). Students share not only brief messages, but also lengthy documents, graphics, sound and video, which when integrated into a project-based format, complement the goals of collaborative writing and global communication in an authentic environment. Sayers (1995) finds that C-MC equips students with "the intellectual and cultural resources crucial for success in the multicultural, national, and global societies they will help form," (p. 12). He additionally hails institutions experimenting with C-MC projects as "brave new schools" that operate on the cutting edge of "widespread educational renewal" (p. 11). In an articulate description of collaborative computer-based projects, Sayers states:

> In the world of the twenty-first century, decision making and problem solving in virtually all spheres—business, science, community development, government, politics—will depend on electronic networks that span diverse national and cultural boundaries. Students whose education has provided them with a broad range of experience in using such networks for intercultural collaboration and critical thinking will be better prepared to thrive in this radically different communications and employment environment than those who have not been provided with access to cross-cultural awareness and problem-solving skills" (p. 12).

However, Garrett (1991) cautions that those who put computer technology to use must do so in the service of good pedagogy, and the effectiveness of CALL cannot reside in the medium itself but only in how it is put to use (p. 75). Others (Stoks, 1993; Chapelle, 1997; Gonzalez-Bueno, 1998) have called out for additional research into curricular integration of computer technology and second language learning techniques. This call, in fact, was one of the major catalysts for my research, which in part, evaluates an instructional model for a collaborative e-mail exchange with the goal of language learning, based on

widely-accepted or "exemplary" pedagogical theories, methods and approaches aimed at optimal student results.

2.9.1 Collaborative C-MC in the Foreign Language Classroom

In the late 1980s, second and foreign language teachers first began to integrate electronic communication into language teaching (Warschauer, 1996c). There were a number of motivations for this, including a desire to provide authentic communication partners (Cohen and Miyake, 1986; Paramskas, 1993), recognition of the importance of cultural exchange (Soh and Soon, 1991) and teaching new learning skills to language minority students (Cummins and Sayers, 1990).

2.9.2 Pedagogy for C-MC in Second Language Learning

New, maturing pedagogues for collaborative, computer-based language teaching are currently in the works. Although this involves a switch from print to electronic media as the basic mode of communication, (Langston and Baston, 1990), they primarily focus on social, political and pedagogical changes rather than technical ones.

Departing sharply from traditional ways of teaching writing, new teaching paradigms are open, inclusive, nonhierarchical, consensus based and product-oriented. They reject the teacher-centered, top-down "information transfusion" model of instruction, in favor of a student-centered model where the teacher is a coach and coordinator (Barker and Kemp, 1990, p. 5). Students are their own "knowledge makers" and become enfranchised and empowered participants in the discourse community. Writing is done, not just as a mandated exercise to please the teacher, but as an opportunity to shape the opinions of readers with whom the writer identifies (p. 25).

Cummins and Sayers (1995) examine two pedagogical approaches for C-MC projects in the language learning classroom: Progressive Pedagogy and the Transformative Approach. Both pedagogues make use of collaborative, critical inquiry and hold great promise for affecting student educational outcomes. The Progressive approach is considered in the "mainstream" of educational research

and theory in North America today, (p. 152) whereas the later is considered more ideal but harder to attain.

2.9.2.1 Progressive Pedagogy

Progressive pedagogy is an eclectic "umbrella" term involving a variety of constructivist approaches to learning that drew inspiration from the social learning theory of Soviet psychologist Lev Vygotsky. Progressive pedagogy shuns teaching methods that break down language into various components to study them in isolation from each other. Instead, it maintains that language should be kept "whole" and used for meaningful communication in either oral or written modes, while making use authentic literature and speaking opportunities (Cummins and Sayers, 1995, p. 150). Learning is constructed collaboratively through the interaction with classmates and teachers, rather than being seen as largely an exercise in memorization. It also makes use of small-group cooperative learning—an instructional strategy focusing on classmates from a variety of cultural backgrounds and diversity of talents, working together and sharing knowledge to attain a common learning objectives. Learning is student-centered, egalitarian and develops from a bottom-up rather than top-down model of instruction.

2.9.2.2 Transformative Approach

This shares a common orientation with progressive pedagogy, but its instructional goals stretch beyond mere academic progress to include the enactment of social change. The transformative approach uses collaborative, critical inquiry to "relate curriculum content to student's individual and collective experience" in order to "analyze broader social issues relevant to their lives" (Bigelow, *et. al.*, 1991, p. 7). It also encourages students to imagine the transformation of social realities through various forms of democratic participation and social action. Bigelow, *et. al.* lists eight components of the transformative approach:

- Lessons should be grounded in the lives of the students. No matter what subject is being taught, they must relate to students' lives, as well as the subject area

- Students must learn (or be taught) to pose critical questions about social issues, such as "Who benefits and who suffers?," or "What alternatives can we imagine?"
- Lessons must be multicultural, anti-racist and pro-justice, and there must be a social justice curriculum
- Lessons are participatory and experiential, often by using activities such as role play, mock trials, simulations or experiments that stimulate students to participate
- Lessons are hopeful, joyful, kind and visionary
- Lessons are activist and reflect social diversity and social justice
- Lessons are academically rigorous and inspire levels of academic performance far greater than those motivated or measured by grades or test scores.
- Teachers are culturally sensitive, calling on parents or community as educational resources (p. 7)

Although the Progressive and Transformative approaches are based on the shared goal of collaborative critical inquiry, the latter incorporates a vision of social changes that directs all instruction. Cummins and Sayers advocate the later approach, which they believe is in students' "best interests" (p. 162).

2.10 Structuring C-MC Projects

There are many ways to structure telecollaborative projects, and models can be as varied as collaborative imaginations allow. However, there is agreement among researchers that for real learning to occur, students must go past the "keypal stage" and engage in significant intercultural learning projects using a task-oriented approach that results in a final product (Barson, Frommer and Schwartz, 1993; Klemm and Snell, 1995). Academic consensus also holds that collaborative learning or some aspect of group learning is the most beneficial operational mode for C-MC projects, (Galvin, 1985, Ganszauge, *et. al.*, 1994). Not surprisingly, the field of second language acquisition has been suggested as the favoured source of such collaborative projects (Levy, 1997, p. 217).

Yet, researchers caution that e-mail exchanges must be part of an *integrated* process, handled the way one would integrate a new textbook, rather than an *add-on* process like a guest speaker (Warschauer, 1995b, p. 95).

Warschauer asserts that the add-on model—merely having each student send letters to a person at a distant school—can lead to frustration and less-than-expected academic results. Instead, he finds that when the classroom e-mail classroom process is truly integrated into the ongoing structure of homework and student classroom interaction, the results can be "educationally transforming" (Warschauer, 199b, p. 95).

Therefore, it is not only integration of computer technology with ESL methods, but a more thorough integration of every aspect of the e-mail exchange with the classroom structure, syllabus and curriculum, that is at the forefront of new research and exploration.

2.10.1 Model Structures for C-MC Projects

The three most common types of telecollaborative projects used in schools today are shared student publications, comparative investigations and folklore compendia or oral histories (Sayers, 1995, p. 23).

Shared student publications include activities like jointly published newspapers, magazines and literary anthologies. One example of this model is AT&T's (previously American Telephone and Telegraph) "Learning Circles," a paid service that connects schools throughout the world to publish jointly written projects (Riel, 1990). Participants hold collaborative, on-line editorial meetings and set up joint editorial boards for students and to make decisions on everything from the title of projects, to artwork, layout and final stages of production.

Comparative investigations are joint community surveys that tap local public opinion on chosen themes—usually controversial topics like the homeless, drug abuse or deforestation—and share results on a global level. Partner schools collaboratively develop the focus of research and study questions. After the data is gathered, schools help each other analyze data and craft a joint report on their respective community's "self portrait." One such project entitled *Cyber-Surveys* (Kendall, 1995), involves joint questionnaires shared between Spanish language students in the US and native Spanish speakers in Latin America, culminating with both oral and written presentations.

Folklore and community narrative projects are those which exchange fables, projects, folk games, riddles and rhymes, traditional fables and even lullabies and folk songs, but can develop into more extensive projects such as sophisticated oral history projects and formal interviews with peers or elders. One such project entitled "Folktales Around the World" (Gaer, 1995) is a collaborative effort between adult and middle school ESL students, culminating in an illustrated compilation of tales. An important outcome of this type of project is for students to view their parents, relatives and other adults as vital sources of valuable cultural knowledge (Sayers, 1995 p. 23).

2.11 Research on C-MC Projects in the Foreign Language Classroom

One of the most in-depth studies of telecollaborative projects in the foreign language classroom is an ethnographic investigation done by Tella (1991, 1992a, 1992b) at the University of Helsinki, involving two-semesters of e-mail exchanges between four Finnish high school classes and their partners in England. Comparing outcomes with students from traditional Finnish classrooms, Tella notes the following:

- Classroom emphasis switched from teacher-centered, large-group
- teaching toward a more individualized and learner-centered working environment (1992b, p. 244)
- Students benefited from being able to select their own topic (1992b p. 244)
- The quality of writing improved as a result of writing for genuine audiences in other countries and from using real-purpose writing (1992b, p. 245)
- The modes of writing expanded from the typical narrative and descriptive genres found in the regular class, to include personal, expressive and argumentative uses of the language (1992b, p. 245)
- Students learned to naturally edit and revise their compositions, poems and other messages, rather than writing them only once, as was the norm. They learned to make use of peer tutoring and other collaborative methods (1992b, pp. 244-245)

Barson, Frommer and Schwartz (1993) focus on several experiments between 1988 and 1993 in which French classes at different universities worked together via e-mail to collaboratively produce student newspapers and magazines. Distance collaboration was just one aspect of a general task-based

and collaborative orientation that students used in their "home" classroom as well as with foreign partners. Some of the outcomes were as follows:

- Students experienced deep satisfaction from being able to "manage their life" in the target language with a fair measure of success
- Students recognized their own responsibility as leaders and contributors, learning to carry on conversations at a challenging level
- Students used contextualized language about real-life topics that was more typical of everyday language in a French-speaking country than anything taking place in a conventional classroom
- Students increased opportunities to practice French outside the classroom, and many continued to correspond by e-mail with their partners even after the class finished (p. 528)

2.12 Research on C-MC in the Second Language Classroom

A litany of positive outcomes have been associated with the use of C-MC projects in the second language classroom, including the facilitation of communication, reduction of student anxiety, increase of oral discussion, development of the thinking/writing connection, building of egalitarian class structures, development of language skills, heightened student motivation, writing for an authentic audience and purpose and the accessibility of both information and technology. I will be discussing these outcomes in the following pages.

2.12.1 Facilitation of Communication

In general, students report that communication in a computer lab setting is easier than oral classroom communication, even for those without strong keyboarding skills (Beauvois and Eledge, 1996; Cononelos and Oliva, 1993; Kern, 1995). Students using a computer lab also claim to be freer in their language use and more willing to participate in class discussion (Beauvois, 1993).

Cooper and Selfe (1990) find that computer labs provide productive environments for peer review, writing workshops and class publishing, while Carter (1989) reports the ease with which other students can insert comments in the form of capitals, parenthesis or marked with asterisks so that the writer can

easily find them, utilize them and revise their original draft. Phinney (1989) finds that teachers can use computers to comment verbally on a text without removing it from the student's view, and that revisions can be incorporated immediately—two particular needs of second language students.

2.12.2 Reduction of Anxiety

Anxiety over speaking and participation seems endemic to second-language learners (Philipps, 1991; Young 1992). Anxiety was also identified in Krashen's "Affective Filter Hypothesis" (1985) as a factor inhibiting language acquisition. However, electronic discussions have been found to free students from anxiety more than traditional teacher-centered class discussions. They have been credited with giving L2 students extra time needed to form responses, present opinions, interact more easily (Sullivan, 1993, p. 34) and write more fully and openly because of the ease of revision and correction (Pennington, 1996; Lam and Pennington, 1995; Selfe and Hilligoss, 1994).

Kern (1993) reports that student anxiety among L2 learners is reduced when electronic discussion precedes oral classroom discussion, rather than the other way around. When his L2 students at the University of California, Berkeley discussed an issue for the first time, they were overwhelmed by a variety of simultaneous factors: developing ideas, using appropriate structures, paying attention to conversational turns and dealing with their own anxieties about peers and teachers. However, after participating in electronic discussions, their ideas had already been developed and articulated, allowing them to better focus on oral delivery.

2.12.3 Increase of Oral Discussion

Pratt and Sullivan (1994) report a large increase in oral discussion among ESL students in a semester-long C-MC project at the University of Puerto Rico. This project involved two ESL writing classes taught with the same syllabus, but under different conditions: one class used a computer-networked classroom where virtually all "discussion" was carried out on-line, and another class relied on traditional classroom discussion. Analysis of the transcripts show that only

50% of the students in the traditional class did not speak up even once, whereas 100% of the students participated in electronic discussion. In addition, the teacher took 65% of the conversational turns in the traditional class, whereas the teacher took only 15% of the conversational turns in the on-line class.

2.12.4 Developing the Writing/Thinking Connection

Another attractive claim about C-MC in the L2 classroom is that the writing/thinking connection is enhanced (Warschauer, Turbee, Roberts, 1996). DiMatteo (1990, 1991) describes how this connection benefits students during C-MC activities when participants write down thoughts that would ordinarily be spoken:

"They create intensely visible language out of what they consider to be forgettable, facile words—their own talk and conversation. They develop a sense that when they talk, they are 'drafting' themselves, composing their own identities through a speech that is also writing made utterly tangible. Such a novel and important learning experience conflicts with their traditional assumption that learning is the ability to comment on and recall the teacher's words (1990, pp. 76-77).

Kroonenberg (1995) asserts that the quality of student arguments are enhanced and thinking is more creative during oral discussions based on e-mail entries. Similarly, Barker and Kemp (1990) report that when remarks are textualized during C-MC activities, they enforce a seriousness and self-consciousness on part of the commentator.

2.12.5 Facilitation of Social Learning

One of the central tenets of modern language theory is that learning is a social activity. In the 1980's, the use of C-MC in US composition classes gained popularity, largely due to claims that it encouraged collaborative writing (Barker and Kemp, 1990) and that it facilitated peer editing (Boiarsky, 1990, Moran, 1991). Students involved in C-MC projects have been found to be more willing to comment on peer writing than during face-to-face exchanges (Hartman, *et. al.*,

1991) and their comments have been described as more substantive and resulting in more group-focused revision (Marbito, 1991).

Barker and Kemp (1990) report that C-MC activities are good ways to promote socially-produced "group knowledge," and that peer feedback techniques used in tandem with C-MC enhance learning because: (a) peer critiques via by e-mail are usually written in complete sentences rather than a few words jotted down in margins of a page, (b) critics give more accurate input when remarks are generated at a student's own pace, and (c) the author and critic can engage in an ongoing dialogue about the work in as much detail or brevity as needed (p. 15).

2.12.6 Egalitarian Class Structures

The use of C-MC in the language classroom has been described as more egalitarian than traditional classroom pedagogy (Marbito, 1992). Mehan (1979) contends that traditional exchanges in language classrooms are typically top-heavy with teacher talk. Similarly, literature attributes approximately two-thirds of all classroom speech to the teacher, while in an L-2 classroom, 65% - 75% of the speech is attributed to teachers (Chaudron, 1988).

In comparison, computer-based, collaborative writing activities are found to change the student/teacher power structure in ways that better benefit students, such as allowing for a "bottom up" mode of instruction, more equality in turns among minority students and more allowance for student talk, input and opinion (Sullivan, 1993; Barker and Kemp, 1990; Boiarsky, 1990; Langston and Batson, 1990). Cooper and Selfe (1990) report that asynchronous computer conferencing reduces "teacher-centered hegemony" while enabling individuals to bring up their own topics for discussion within the broad context of the external instructions (p. 847). Students also learn to resist as well as accommodate, and learn that it is an important skill to learn to think "against the grain of convention as well as with it" (Cooper and Selfe, 1990, p. 850).

Sproull and Kiesler (1991) reviewed six studies that compare the equality of participation in C-MC discussion with face-to-face discussion. In all six studies, electronic discussion was found to be decidedly more balanced, and

members of lower status groups benefited most from the increased equality afforded to them by electronic discussion. For example, McGuire, Kiesler and Siegal (1987) report that women made the first proposal as often as men did in electronic discussion, compared to only one fifth as often during face-to-face-discussion. Huff and King (1988) find that topics proposed by lower status groups were accepted equally in electronic discussion, but rarely in face-to face discussion.

2.12.7 Development of Writing and Speaking Skills

Warschauer (1996c) attributes improved academic skills to participation in C-MC projects. In a controlled experiment comparing face-to-face discussion and electronic discussion in a university ESL class in Hawaii, he found student language to be lexically and syntactically more formal and complex during electronic, rather than face-to-face discussion (p. 1). In another controlled experiment, Marbito (1992) reports greater student productivity and efficiency among e-mail writing groups, as opposed to traditional ones.

2.12.8 Student Motivation

A surge of articles in recent years has examined the relationship between motivation and language learning (Crookes and Schmidt, 1991; Dornyei, 1994; Gardner and Tremblay, 1994; Oxford 1994; Oxford and Shearin, 1994; Pulvermuller and Schumann, 1994; Skehan, 1991; Warschauer, 1996a). While much of the research concludes that the motivation and language learning connection has been underestimated in the past, one article goes as far as claiming that motivation should be viewed as the single, overriding variable determining language learning success in adults (Pulvermuller and Schumann, 1994).

There is a large body of literature dealing with computers and motivation (Armour-Thomas, *et. al.*, 1987; Brown, 1986; Chapelle and Jamison, 1986; Fox, 1988; Hicken, Sullivan and Klein, 1992; Kinzie; Mosley, 1984, Relan, 1992, Waldrop, 1984). However, much of this research is devoted to computer-assisted instruction in general, rather than language learning and C-MC projects.

Warschauer (1996a) cautions that the motivation of a language learner using computers might be "very different than for learners studying other subjects" (p. 2). He additionally believes that most research regarding the motivating affects of CALL is outdated in light of new technologies popularized over the past five years—in particular, multimedia programs and computer-mediated communication.

The few recent publications dealing with C-MC technology and student motivation do suggest that there is a motivational advantage to using asynchronous computer-mediated communication (Underwood, 1987; Schiefelbein, *et. al.*, 1995; MacDonald, *et. al.*, 1995; Warschauer, 1995a; Walthers, 1994). For example, Schiefelbein, *et. al.*, reports that students involved in an e-mail exchange project between Ohio University in the USA and Chubu University in Japan, exhibited heightened motivation to learn English. Although students did not believe their English skills improved much because of the exchange, they felt "a stronger motivation to improve their English and communicate their thoughts more clearly" (pp. 24-25). In another exchange between the same two universities, MacDonald (1995) reports that despite technical difficulties in setting up the project, students became more interested in learning English than before, and four out of five students interviewed wanted to continue the same type of project in the future.

Warschauer (1996a), examines the relationship between specific aspects of CALL and motivation, such as "empowerment," "communication" and "learning" (p. 1). In a study of 167 ESL and EFL (English as a Foreign Language) students in 12 university academic writing courses in the US and abroad, he reports that students overall had a positive attitude towards using computers, and that this attitude was consistent across a number of variables, including gender, typing skill and access to a computer at home.

2.12.9 Writing for an Audience and Purpose

Spitzer (1990) suggests that networked communications can encourage a greater sense of audience by fostering an online discourse community where writers and readers engage in real discussion with a purpose beyond the writing assignment itself. Similarly, Hawisher (1992b) notes that online environments

provide a "real and expanded audience" made convenient with minimal restrictions to time and place (p. 86), while Cohen and Riel (1989) attribute improved ESL student writing to the existence of an authentic audience during e-mail exchanges.

2.12.10 Accessibility of Information and Technology

Computer-Mediated Communication projects in the ESL classroom give students direct access to the primary source of the language in use (Orem and Holliday, 1995). Electronic discussions are seldom lost because they can be stored in the computer, and teachers can also use discussion printouts for a variety of instructional purposes like forming folios or comparing work from one point to another (Sullivan, 1993).

Finally, the price of C-MC technology is generally accessible and exchange projects can take place with very little equipment: a few computers and a single modem. Davis and Chang (1994-5) relate that during their first telecollaborative exchange between students from the University of North Carolina at Charlotte and Taiwan's National Kaohsiung Normal University, there were no networked classrooms and students did not have mainframe accounts. Instead, they used word processing programs to write, revise and edit. Then individual files were combined into larger class files, and the instructor in Taiwan (Chang) sent the files himself over Bitnet, and later over Taiwan's TANET and the Internet.

2.13 Drawbacks of C-MC

Several studies have shown that students working on C-MC projects have been dissatisfied with various aspects of their exchange. Although most of these studies focus on university student populations (rather than secondary ESL students), they do involve C-MC projects similar in structure and organisation, to the one described in this researcher's study.

2.13.1 Complex Demands of Projects

Galagher and Kraut (1994) studied the effects of C-MC in a college writing class divided into three discussion groups: computer only, computer plus phone and face to face discussion. Although the communication modality did not affect group performance, the computer-only group had greater difficulty completing work and reported a lower level of satisfaction with their work. This was partially due to the complexity of the project and the level of interactive communication during difficult tasks like negotiating meaning, establishing consensus and solutions, dividing tasks among group members, coordinating the execution of work, and confronting questions of authority within the group. Overall, Galagher and Kraut find face-to-face discussion best suited for complex tasks, because it is the most interactive, allowing rapid info exchange.

2.13.2 Information Overload

Students from Harasim's (1987) on-line graduate writing class report additional drawbacks to C-MC projects, including information overload, inconvenience of increased access (the feeling of excessive work load), getting lost on various online discussion threads, and health concerns. Information overload is particularly prevalent in the first days and weeks of using a new communication medium. One of Harasim's students details this phenomenon:

"I too suffered from a little information overload during the first five weeks, but frankly I find that happens in any course I take...it's just that when the comments are on a screen rather than in spoken form, it becomes a visual reminder of how much I'm not understanding. I really think that the feeling of overload is what creates the tension to begin action towards classifying information and attempts to clear out extraneous information" (pp. 129-30).

2.13.3 Uneven Power Structures

Herring, *et. al.*, (1992) challenges the claim that classroom e-mail activities have a democratizing influence on communication. Focusing on an academic discussion list called "Megabyte University," Herring and his colleagues find that men—"even in this relatively non-adversarial environment—

contributed 70 percent of the messages," and that women's contributions to the five-week discussion exceeded those of men for only two days. Immediately after this two-day period, the males complained of being silenced during discussion, and some made threats to unsubscribe from the list (p. 252).

Janangelo (1991) also reports that C-MC activities can have anti-egalitarian affects. For example, teachers can subvert the process of power distribution by dominating discussions and using their access to computer files to make students more fearful of teacher evaluation or control. Tannen (1993) additionally cautions that students who come from "cultural contexts in which hierarchical relationships are seen as close and mutually, not unilaterally empowering," may feel confused or disoriented by student-centered classrooms (pp. 169-170).

2.13.4 Distraction from Academic Goals

Sirc and Reynolds (1990) report that networked computer discussion in university-level LAN classes is often shaped by social concerns (face-saving and maintenance of group cohesion) rather than academic ones. Romiszowski (1990) lists several other ways that C-MC projects can distract students from academic goals: procrastination, lurking (hanging back without taking an active participatory role), distraction from a multitude of different discussion threads in one conference, non-linearity of the discussion (people responding to different parts of the discussion at different times), and the tremendous amount of reading and re-reading that the activity entails. Finally, Susser (1993) cautions that students might ignore comments or writings of others due to language difficulties, turning on-line writing into "a set of asocial monologues" (Moran, 1991, p. 51).

Romiszowski (1990, pp. 8-9) offers advice to help instructors better minimise possible disadvantages of C-MC:

- Create a non-threatening environment
- Leave a personal welcome message for each student
- Reinforce early attempts of participation
- Reference student responses in their comments

- Send students individual feedback
- Model expected behavior concentrating on content and thought-provoking ideas
- Keep the main discussion on track by providing leading questions
- Refocus when the discussion starts getting off track
- If a distracting topic appears that is generating interest, create a branch so that the competing conversation is separate and optional
- Focus efforts by suggesting that students look deeper into topics when applicable
- Mediate differences that become obstructive and make comments pertaining to the group's progress.

2.14 Public Opinion and C-MC

Although the majority of recent articles, books and research on C-MC tout its benefits rather than shortcomings, optimism of this sort is typical of any new technique or innovation. As is often the case, time alone, will be the final judge of public opinion and scholarly consensus. For the time being, educators must keep in mind that C-MC is just one technique among many others that can be used in an attempt to enhance student language learning. In addition, computers don't directly help students to learn because they are mere tools—it is what we do with the tools that matters (Harris, 1997-98). Even when implemented using sound curricular models and exemplary pedagogical techniques, C-MC is not a panacea that will solve all the problems of second language acquisition.

2.15 Locating Research on C-MC and Second Language Acquisition

C-MC technology touches so many disciplines and interests that research on one specific application area—for example, second language acquisition—is not always located where one might expect it. Instead, it is scattered in various sources, ranging from journals on computer administration, computer education, management computing, instructional technology, instructional science, business and technical communications and documentation, as well as in more obvious fields like applied linguistics, learning theory, TESL (Teaching English as a

Second Language), Foreign Language Learning (FLL) and CALL (Computer Assisted Language Learning).

2.15.1 On-line Resources

About 75% of the literature acquired for this dissertation was found in "Cyberspace" (mainly the World Wide Web and discussion lists) rather in than traditional repositories like university libraries and their CD-ROM databases. Four specific Listservs on the topic of C-MC and Second Language Acquisition have been of immeasurable help to this researcher: TESL-L, TESLCA-L (its subsidiary branch), NETEACH, and IECC.

TESL-L was founded in 1991 with the goal of providing second language practitioners throughout the world—in all levels and settings—a fast, convenient and topical electronic discussion forum focused on ESL and EFL issues. It is currently run by Anthea Tillyer and Susan Simon of the City University of New York, and Tom Robb of Kyoto-Sangyo University in Japan. With more than 4,000 participants from 70 countries, it is one of the largest e-mail discussion forums in the world.

TESLCA-L, a special interest list focusing on computer-assisted language learning (CALL), is a sub-branch of TESL-L. You must first subscribe to TESL-L in order to be placed on the TESLCA-L list.

NETEACH-L is an on-line forum through which international EFL/ESL teachers can discuss issues related to using technology as an educational tool. The list currently boasts 1,000 members and is owned by Suzan Moody at the Chinese University of Hong Kong. It was created for the purpose of sharing success stories and activity ideas, as well as helping computer-phobic teachers overcome their fears in using technology to their students' (and their own) full advantage. The NETEACH Archives, found at http://www.ilc.cuhk.edu.hk/english/neteach/main.html, contain an expansive collection of resources on C-MC, including "bookfile" (a list of reading books), "C-Class" (information on the computerized classroom), "E-Biblio" (a bibliography on e-mail in the classroom), "Neterms" (terminology dictionary) as well as notes

from previous discussions threads such as "Is CALL Dead?" "Net vs. CALL" and "Pedagogy."

The IECC (Intercultural E-mail Classroom Connections) is a Listserv for K-12 teachers seeking partner classrooms for international and cross-cultural electronic mail exchanges. IECC has several related sub-mailing lists, including IECC-Discussion (for discussing strategies for using e-mail in an educational setting) and IECC-Surveys (for survey projects).

2.15.2 On-line Magazines and Journals

The past few years have seen an explosion of on-line magazines and journals that deal with computer-related themes. Those of special interest to the C-MC and language learning connection include *Computer-Mediated Communication Magazine*, *Language Learning and Technology*, *TESL-EJ Master Page*, *Internet TESL Journal*, *RhetNet: A CyberJournal* and *System*.

2.16 Research Issues

Most of the research on C-MC today is concerned with how computer technology contributes to student achievement, rather than "what goes on in the students' mind when using computers" (Benremouga, 1995, p. 2). Although there are many anecdotal accounts claiming C-MC projects positively effect student outcomes, there are few studies which ask students, themselves, to describe their own feelings, attitudes and beliefs about the relationship between C-MC projects and language learning. Therefore, this researcher's work involves conducting an attitudinal study examining student beliefs and attitudes towards an exemplary, collaborative e-mail-based project designed for secondary ESL students.

Whereas interest in C-MC and second language learning has increased exponentially over the past few years, there is still a demand for research on sound integration of technology and L2 pedagogy in ways that "truly alter the traditional classroom paradigm," rather than ways that focus on superficial changes or "external trappings of education" (Coski and Kinginger, 1996, p. 5 of index "C"). In addition, there is a "dearth of research" describing the process of

C-MC writing—namely what students do at the computer and how they produce C-MC and the text resulting from that writing (Trenchs, 1993, p. 26).

Therefore, a major focus of this study is to develop and evaluate an instructional model that blends the best of ESL methodology and C-MC technology. This model offers a sound curricular structure for C-MC in the second language classroom, drawing upon exemplary pedagogy and modern language learning theory that has been shown to enhance student outcomes.

2.17 Summary

In this chapter, I have discussed the background of modern language teaching techniques, as well as the newest pedagogical paradigms for computer-based language learning—particularly C-MC and long-distance collaborative networking for the ESL classroom. What we find are overlapping approaches from two fields, creating an integrated approach that blends the best of two traditions.

Research into C-MC projects in the second language classroom points to a litany of positive outcomes when used in tandem with good pedagogy—this being the major caveat given by experts. I have examined new paradigms such as the Progressive Pedagogy and the Transformative approach to C-MC, which are open, inclusive, nonhierarchical, consensus based and product-oriented. I have also examined widely accepted paradigms for modern language learning, such as Cooperative Learning, Project Based Learning and the Communicative Approach to Language Learning.

The curricular integration of these various traditions offer a new starting point for the blending computer technology and second language learning. Continued research into these overlapping fields will yield further data on how specific computer applications best complement specific educational goals.

Chapter 3

A MODEL FOR A COLLABORATIVE C-MC EXCHANGE WITH SECONDARY ESL STUDENTS

3.1 Overview

This chapter examines the educational model used for a collaborative e-mail exchange between Buddhist Sin Tak College in Hong Kong and Green River Community High School in Iowa. First, the model is discussed in terms of how its various components are grounded in modern and widely accepted theories, methods and approaches for teaching second language. Second, it discusses the various steps involved in designing and implementing this exchange, including locating a partner class, defining the scope and depth of the project, academic preparation for students, teacher coordination, opening communication, organizing a joint publication, closing communication and evaluation.

3.2 Background of the Model

Although this model was specifically designed for secondary ESL students in Hong Kong (and to a lesser extent, for L1 secondary students in Iowa), I believe it is equally appropriate for middle and high school students of various ages and cultural backgrounds. It was designed to be flexible enough to encompass variable components (including those mandated by national curriculums), depending on individual class needs and interests. It can therefore be used with a highly-structured curriculum (such as the exam-based Hong Kong secondary school system) or a more flexible system such as that commonly found in American high schools.

This model was based on four years of experience with collaborative, multi-national e-mail exchanges for secondary ESL students (7^{th} – 10^{th} grade) at the Chinese International School of Hong Kong—where I worked prior to my

arrival at the Buddhist Sin Tak College. During those four years, I experimented with and developed a system for locating exchange partners, setting up equipment, organizing goals, designing curriculum and integrating the four language skills (reading, writing, listening and speaking) into a telecollaborative exchange project. I also built up a repertoire of C-MC-based language learning activities for secondary (intermediate- and advanced-level) ESL students. What ultimately evolved was a flexible and well-functioning model that worked for ESL students at the Chinese International School.

I then transferred this model to Buddhist Sin Tak College (BSTC) in Hong Kong, adjusting it where necessary, to fit the needs of my Form 4 class (4E). I additionally incorporated elements of Hong Kong's national curriculum, making sure that the exchange content corresponded with a good selection of skills normally taught in Form 4 English classes during the months of February, March, April and May, as outlined below:

Skill Areas Taught at BSTC in Form 4, February – May, 1999

Writing:	Informal writing, introductions, imaginative essays, descriptive paragraphs
Grammar:	Negative statements, conditionals and connectives
Reading:	Cloze passages, comprehension and word usage exercises
Oral:	Group discussion, summarization, social interaction behavior and group negotiation

These skill areas were taught in tandem with widely accepted pedagogical approaches and methods for modern language instruction, while following the content of the national curriculum as closely as possible.

3.3 The Hong Kong-Green River Model

The following is an outline of the Hong Kong-Green River model, as utilized during spring of 1999:

THE HONG KONG—GREEN RIVER MODEL

Opening Communication

(a) Teachers exchange brief introductions and background information.

(b) Teachers send a "welcome" letter to foreign partner class.

Ice Breakers

(c) Key pals exchange first "hello" letter (informal e-mail on general themes like personal characteristics, family, hobbies, school life, etc.) (Appendix "A").

(d) Key pals exchange second e-mail correspondence (focused on negative statements and conditionals). Hong Kong students highlight these two grammatical items as found in their partner's letters, and make deliberate use of them while discussing likes and dislikes, hopes and expectations, during correspondence.

(e) Students create Cloze exercises (fill-in-the-blanks) with descriptive passages about respective Iowa or Hong Kong communities. Partners must guess at the missed out words. (Appendix "B").

(f) Students fill in blanks on partners' Cloze exercises, then receive answer key via e-mail.

Negotiating the Project

(g) Students on both sides negotiate a topic for an imaginative essay and jointly-published magazine (several rounds of communication transpire after each respective class discussion).

(h) Students share several text-based examples of imaginative essays. (Appendix "C").

(i) Students write first draft of imaginative essays in class and receive peer critique in cooperative groups. Shared rubric used for evaluation.

(j) Students revise drafts and send to foreign partners for peer-critique. Shared rubric is used for evaluation.

Culture Exchange

(k) Students exchange culture box (posted to partners and filled with photos, stamps, postcards and other realia).

Continued Correspondence

(l) Students send third e-mail letters to partners (in our case, focusing on the use of connectives).

(m) Students complete final draft of imaginative essays after receiving peer feedback from partners.

Anthology Production

(n) Final essays are edited and production of jointly-published magazine begins.

(o) Correspondence ensues, regarding anthology format, division of labor, inclusions and other related tasks.

Closure and Evaluation

(p) Anthology completed, "goodbye/thank you letters" written, large and small group discussions, student surveys and interviews.

This model was first proposed in rough form to Mr. Ziller, my teaching partner in Iowa, six weeks before our exchange commenced in January of 1999. It was then refined and negotiated via e-mail, until both sides arrived at consensus. It is my hope that this model, described in the following pages, is comprehensive enough to offer a "close up" look at the C-MC exchange process from start to finish.

3.4 Exemplary Theory, Methods and Pedagogy

The first goal of my research was to evaluate an instructional model for a collaborative e-mail exchange, based on exemplary ESL pedagogy. Therefore, this model includes descriptions of several current and widely accepted theories, methods and pedagogical approaches for modern second language instruction today. Although its various components do not constitute an exhaustive list of "state of the art" ESL teaching techniques, it is meant to be flexible enough to encompass possibilities and choices other than those specifically stated.

3.4.1 Theoretical Basis

As noted in Chapter 2 (pp. 12-13), several prominent theories that serve as "cornerstones" for modern second language instruction, have been incorporated into this model. These include Krashen's "Input Hypothesis" and "Collaborative Learning Theory."

3.4.1.1 Comprehensible Input

Krashen (1982) asserts that comprehensible input is the only source of acquired knowledge of language, while Chaudron (1998) and Larson-Freeman

and Long (1991) offer specific techniques for modifying linguistic structures to make input more comprehensible (simplification, elaboration, added redundancy and comprehension checks).

The importance of comprehensible input was highlighted during our exchange, when Hong Kong students came into contact with American slang ("cool," "hanging out," "airhead") and American cultural traditions (bumper stickers, homecoming dances, drill teams). Consequently, our partners' e-mail often served as an authentic text for input modification activities such as the ones mentioned above.

3.4.1.2 Collaborative Learning Theory

Social interaction (Chapter 2, p. 13) has been shown to be an effective means of promoting cognitive development, leading to a profusion of other positive student outcomes (p. 14). Therefore, Collaborative Learning Theory served as the cornerstone of our exchange. Cooperative groups were used on a regular basis (at least two out of three weekly lessons) to enhance social interaction, promote cognitive development and foster positive relations with individuals and team members. The following is a list of the main activities the 4E cooperative groups engaged in:

(a) **Teambuilding:** Each team debated and decided upon a group name such as "International Airport," the "Kings" or "Millenium Bug!" and designed a logo as a centerpiece for their grouped tables.

(b) **Breaking the ice**: Students spent time getting to know members of their respective groups, conducting interviews on hobbies, interests and hidden talents. Later on, summaries from each group were reported back to the whole class.

(c) **Social interaction behavior**: Students actively practiced initiating discussions, agreeing and disagreeing politely, asking for opinions, clarifying, conceding points, giving counter arguments, encouraging other speakers, expressing doubt, introducing new topics, reaching consensus and concluding (Appendix "D" and "E").

(d) **Roundrobins:** Members of each group responded in turn (orally or in writing, in a clockwise direction) to various classroom assignments, later sharing their findings with the whole class.

(e) **Student roles:** During cooperative activities, individual roles were assigned to help students accomplish group goals. For example, during a particular activity, student #1 of each group might be the "recorder," student #2 might be the "fact checker," student #3 the

"quizzer," student #4 the "speaker" (who reports back to the whole class) and #5 the "timekeeper." Roles were reassigned on a regular basis so students could learn a variety of them.

(f) **Student interests:** Each team cooperatively planned and researched a specific part of a larger task, depending on group choice and individual interest. For example, during the Cloze activity, each team selected a slice of Hong Kong life to write about, ranging from Dim Sum brunches to architectural landmarks.

(g) **Pooling skills:** Groups divided up their workload into individual or paired assignments, later pooling information before presenting it to group members or the whole class.

(h) **Oral discussions:** These played an important role in our exchange, often centering on our Iowa partners (similarities and differences), interwoven student roles and common learning goals.

(i) **Post group debriefing and reflection:** At the end of each activity, students reflected (individually and in groups) about their learning experience. Students filled out forms to evaluate group and individual effectiveness, project strengths and weaknesses, and to set goals for future improvement (Appendix "F").

3.4.2 Methodological Basis

This exchange utilized several teaching methodologies embraced by modern ESL teachers today (Chapter 2, p. 16 and pp. 18-21) including process writing and project-based learning.

3.4.2.1 Process Writing

Throughout the course of this exchange, the principal tenets of process writing (described in Chapter 2) were followed: writing was presented as a teachable, recursive operation with attention placed on the process rather than the final product. The following is a list of process stages that 4E followed in class:

(a) **Pre-writing:** "Brainstorming" and "semantic webbing" techniques were used to solicit oral ideas/suggestions from the class, before mapping them out on the chalkboard into logical "webs" or clusters. This process was accompanied by discussion about the pros and cons of various choices. For example, after narrowing down topics for the anthology ("ghosts," "entertainment," "gambling," "transportation" and "romance"), we communicated with our partners, and through a joint decision-making process via e-mail and additional classroom discussion on both sides, decided upon the "entertainment" theme.

(b) **Planning activities:** Whole-class discussions were utilized to help students make decisions about writing goals, essay planning, determining types and amount of information needed, and locating resources. I also coached students individually as they prepared their first drafts.

(c) **Focus on writing goals:** A shared rubric was given to students before they started writing. While ultimately serving as an evaluation tool, it helped students focus on specific writing goals like using appropriate titles, descriptive vocabulary, proper paragraphing and the hypothetical conditional tense (Appendix "G").

(d) **First drafts:** Written individually, both in the classroom and at home.

(e) **First evaluation:** Peer critiques were performed during "read-around" exercises in cooperative groups. Students took 8 minutes to read another group member's essay, 10 minutes to give written comments on the rubric form, and a final 5 minutes for oral feedback. Then, papers were exchanged, until all group members had read and commented on all essays.

(f) **Teacher input:** Teachers made written comments on first drafts to help students focus on rubric goals.

(g) **Revision:** Students revised essays based on peer and teacher feedback.

(h) **Second evaluation:** Partner classes exchanged second drafts, giving and receiving feedback on the rubric form.

(i) **Revision:** Students revised essays as needed, with help of cooperative groups and teachers.

(j) **Final drafts:** were published in the form of a writing anthology entitled "In Touch: A Collaborative International Magazine."

3.4.2.2 Project-Based Learning

This exchange relied on a project-based approach, requiring individuals to gain expertise in a particular area while working towards a larger group goal. In particular, Hong Kong and Iowa students decided on a jointly-produced anthology of student work, centered around the theme of "Entertainment" and composed of imaginative essays and Cloze exercises. Students working on a piece about "enjoying dimsum," for example, became experts in that field, while contributing to the larger group goal of anthology production.

3.4.3 Pedagogical Approaches

This model additionally included several widely-accepted pedagogical approaches for second language instruction, including the communicative approach to language learning, authentic contextualized learning, an integrated approach, a progressive approach and a metacognative focus on writing.

3.4.3.1 The Communicative Approach to Language Learning

The BSTC exchange emphasized communicative performance in unrehearsed situations, during which time communication was learned as a process rather than through specified content or static inventories of language items.

While teaching the 4E class, curricular content played a subservient role to the larger communicative goal. Rather than study textbook examples of "negative statements," for example, students used negative statements to communicate for real purposes. They held small-group discussions on dislikes or aversions, and interacted with each other—orally and in writing—while focusing on this grammatical point. They then wrote to their foreign partners—a real audience—revealing likes and dislikes in the form of introductory letters.

Unrehearsed communication was practiced daily in a variety of situations: small student groups, paired students, individual "reporters," and whole-class discussion. Emphasis was placed on the student: his/her learning needs, communicative goals, prior background and interests.

3.4.3.2 Authentic, Contextualized Learning

Students in Hong Kong and Green River wrote for "real" audiences, using authentic language in a realistic setting. The 4E students particularly enjoyed learning slang and jargon used by their Green River counterparts, and occasionally asked me to hold informal, lunchtime study sessions for explaining new terms.

Contextualization was reinforced by keeping a dedicated bulletin board throughout the exchange, helping us focus on Iowa and American culture, as

well as our mutual goals. For example, we pinned up maps and photos of our partners, their school and community, including cultural notes and newspaper clippings about Green River. We also posted documents for planning purposes: time schedules, partner lists, student responsibilities and cooperative group assignments.

3.4.3.3 An Integrated Approach

The four language skills—reading, writing, listening and speaking—were integrated into this model at every available opportunity. Reading of correspondence was conducted both silently and orally, in small groups, large groups and pairs. I read e-mail out loud as a listening comprehension exercise, and students silently read peer essays, giving both oral and written feedback. Written exercises were plentiful and varied, including formal and informal e-mail communication, essay revisions through the writing process, individual and group work and evaluation. Students practiced speaking skills as they negotiated ideas in small groups, reported findings back to the whole class, and practiced models of social behavioral interaction during group discussion. Classmates with computer expertise additionally "peer tutored" weaker students in e-mail and word processing programs—providing another layer of oral interaction.

3.4.3.4 A Progressive Approach

Throughout this exchange, a progressive, student-centered approach was emphasized (Chapter 2, p. 14). Students were considered to be their own knowledge and decision makers, relying on teachers as coaches rather than ultimate providers of knowledge and authority.

In the case of 4E, teachers supplied a broad framework for class work (following the Hong Kong secondary curriculum), although students made active choices within the project perimeters. For example, the imaginative essay was teacher-selected and curriculum-mandated, although students could address any aspect of the topic they wished: life as a popular Japanese film star, the adventures of a video game character or a look at horse racing through the eyes

of a local jockey, just to name a few. Students also decided on the format and design of their published anthology, Cloze topics and the contents of culture boxes. They additionally learned to identify successful and unsuccessful pieces of writing (through the peer critique procedure) without always relying on a teacher's technical advice.

Ms. Chan and I attempted to take on the roles of "coach" and "exchange participant," rather than "ultimate class authority." We often sent our own e-mail correspondence side by side with our students, and circulated throughout the classroom, resting in various locations and working with cooperative groups, rather than lecturing at the front podium.

3.4.3.5 Metacognative Focus on Writing

Students reflected on their own essays with the help of a rubric, peer feedback and teacher feedback. They were asked (individually and in groups, orally and in writing) to identify elements in their writing that worked well and those that did not, while analyzing the reasons.

In the preceding pages, we have seen how modern ESL theory, methods and approaches were integrated into the Hong Kong-Green River model. The following pages will now detail how this model was developed and implemented, from start to finish.

3.5 Building the Exchange

Five major "steps" or areas were involved in developing and implementing the Hong Kong-Green River e-mail exchange:

- Pre-project planning
- Opening communication
- Organizing the publication
- Closing communication
- Evaluation

3.5.1 Pre-project Planning

Pre-project planning involved locating a partner class, defining the project's scope and depth, academic planning, establishing a timeline, establishing teacher rapport and technical coordination.

3.5.1.1 Locating A Partner Class

I considered two methods for locating a partner class for our exchange: "hand picking" one on my own through the Internet or by other means, and subscribing to an organized educational network (some are free and others charge between US$250 and US$300 per semester).

3.5.1.2 A "Hand Picked" Partner

I eventually selected my own partner after posting advertisements on several listserves (electronic discussion lists) dealing with secondary education, educational technology and ESL. My teaching counterpart for this project, Mr. Ziller, was located through a listserv known as IECC—Intercultural E-Mail Classroom Connections, which links up primary and secondary school teachers for telecollabroative exchanges. During the "search process," I also posted messages on two additional listservs: NETEACH-L, an e-mail discussion list focusing on the Internet and ESL, and TESL-L, an offshoot of the international TESOL organization.

Hand picking a partner proved to be a good way to customize the exchange, while focusing on specific student interests and needs. I enjoyed the flexibility this option allowed, especially since my project was circumscribed by rigid curricular mandates, a tight timeframe and restricted computer access.

3.5.1.3 Organized Educational Networks

One of my previous e-mail exchanges (pp. 61-62) was arranged through an organized educational network known as AT&T Learning Circles (no longer in operation). This network not only pre-arranged exchange partners, but provided

a variety of activity options such as student newspapers, research projects and writing anthologies.

The immediate benefit of Learning Circles was its built-in organization, structure and technical assistance—all offered as part of the package. A step-by-step guidebook was provided, including project outlines, time frames, methodological explanations, technical advice, and sample projects. An on-line moderator was also available to assist with daily group activities and interaction.

3.5.1.4 Caveats and Strengths

AT&T's Learning Circles was not specifically designed for ESL learners, and therefore, some of its curricular and academic demands were too difficult for ESL students. Two major obstacles we faced were too many partners and project complexity (Greenfield, 1994). In total, fifteen schools participated, each expected to sponsor its own project and respond to the other fourteen groups. The sheer volume of incoming mail each day was impossible to thoroughly read and digest. On one particular day, for example, one class requested Thanksgiving recipes, another sought descriptions of local communities, a third solicited views on ex-President Carter, a fourth asked for opinions about monuments and historic sites and fifth required details on local disasters. My students couldn't keep up with the voluminous correspondence, which took time away from their own writing needs. In addition, intercultural learning was minimal since students, in a very pragmatic way, became more concerned with getting through the paperwork rather than enjoying and analyzing cross-cultural information. It should be noted, however, that many organized networks strictly limit their number of partners, or even better, customize exchanges between individuals.

A positive student outcome of Learning Circles, however, was the notable increase in student conscientiousness about their writing, possibly due to the fact that L2 learners were communicating with first language students, and therefore wanted to prove themselves by sending their highest-quality work. Another benefit was that all partners participated with a high degree of involvement and enthusiasm—most likely because they had made a substantial financial

commitment. Projects were additionally finalized on time, since network access ended when the deadline expired.

3.5.1.5 Posting an Advertisement

When I first advertised our exchange on the IECC listserv, I included details about student grade level and age, language ability, timeframe and a general project framework (Appendix "H"). I also listed the content classes I wished to communicate with—bearing in mind that different content areas might not be mutually exclusive. For example, I thought that an American history class might enjoy corresponding with a Chinese ESL class on the subject of modern Asian History.

When I thought I had found a match, I asked additional questions for reassurance that our potential partners—although not a "puzzle perfect" fit—were indeed, compatible. For example, I asked how many class hours per week the teacher was willing to devote to the project and if Green River's 17-year-olds would mind working with BSTC's 15- and 16-year-olds. I also tried to ensure that time and resources available on both ends of the exchange were roughly comparable. For example, a class of 30 students using 30 computers three times a week would not be compatible with a class of 20 students using 6 computers three times a week. I also tried to match word processing and typing ability, realizing that a class of "hunt and peck" typists would have difficulty responding to long questionnaires and essays produced by expert typists.

3.5.2 Defining the Project's Scope and Depth

A good deal of collaborative planning (teacher to teacher) was accomplished before the exchange commenced, although there were ultimately issues that arose during the course of the project. Joint planning included tasks such as assigning student partners, designing assignments, selecting shared text, designing shared rubric, agreeing on evaluation techniques, creating timelines and dividing jobs for joint publication activities.

In addition, educational objectives were explicitly stated and agreed upon by both parties in the early planning stages. For example, we agreed that our

exchange content would be based on two curriculum-mandated skills—the imaginative essay and Cloze passages—in order to meet BSTC requirements. However, I constantly solicited feedback from my partner on all activities, including teaching methods, weekly lessons and magazine production, in order to make sure that his teaching objectives and goals were met as well.

It was possible for both teachers to work on different sets of skills in their respective classes, while adhering to the larger exchange goals. For example, the project's larger "umbrella" goal was creating a jointly-produced anthology of essays. However, BSTC students focused on the writing process, while Green River students focused on gathering cross-cultural information. I additionally taught my lessons using cooperative learning techniques, while Mr. Ziller favored whole-class debate and discussion.

3.5.3 Academic Preparation

Before the exchange commenced, I offered BSTC students academic preparation in various skills that they were unfamiliar with, including cooperative learning activities, process writing, oral discussion, negotiation, social interaction behavior, hands-on computer practice and peer evaluation.

3.5.3.1 Cooperative Learning Skills

It took several weeks for BSTC students to build up confidence in cooperative learning—especially since they were switching over from a more traditional learning paradigm. However, we started with the basics and then added on different layers of skills as the exchange progressed. Some of the basics included:

(a) **Desk Arrangement:** Students were asked to cluster desks into cooperative groups at the beginning of class. It was helpful to formally time this activity the first few weeks, saying, for example, "Let's see if we can do this in 2 minutes today!" With a bit of practice and encouragement, arranging desks became second nature when students walked through the classroom door.

(b) **Teambuilding activities:** Groups were given the chance to form identities, select names and design logos.

(c) **Fulfilling individual roles to meet group goals:** Students learned that groups cannot succeed without each member fulfilling his/her role and adding to the mutual effort. These roles include (but were not limited to) a timekeeper, an encourager, a secretary or recorder, a group speaker, a quizzer and a fact checker.

(d) **Timed tasks:** Cooperative groups learned to accomplish tasks within a set period of interview each member, during which time individuals had to reveal two special facts about themselves. At the end of the 10 minutes the "speaker" from each group reported his/her findings back to the whole class.

Throughout the course of the exchange, I used additional activities recommended by Stahl (1994) to reinforce cooperative learning. These included "jigsaw" activities (groups reassemble a text that has been broken up in pieces like a puzzle), "Think-Pair-Share" activities (students pair up to discuss a particular topic provided by the teacher, later sharing their findings with the whole class), "team interviews" (students interview each other in turn, sometimes maintaining character roles from a particular story) and "Roundrobins," (students respond orally or in writing to questions, both in turn and in a circular fashion).

3.5.3.2 Process Writing Skills

The salient features of process writing, as outlined earlier in chapter 2 (pp. 18-21), were employed during the course of this exchange. However, as with any new technique, BSTC students required time and practice before feeling comfortable using these skills. One of the challenges they faced was accepting that they could be authorities for critiquing and revising their own work, as well as the work of peers. Whereas it was not reasonable for BSTC students to catch every grammatical or organizational mistake, it was reasonable for them to gain confidence in planning, editing and selectively assessing written pieces, in regards to particular features listed on a rubric.

3.5.3.3 Discussion, Negotiation and Social Interaction Behavior

Before the exchange commenced, BSTC students were given academic preparation in oral discussion, negotiation and social interaction behavior.

These skills, which were regularly integrated into the Hong Kong-Green River model, have already been thoroughly discussed earlier in this chapter (p. 64).

3.5.3.4 Hands-on Computer Practice

"Hands on" computer practice was given to students before initiating the exchange. This proved to be a good idea. Although more than half of 4E's students were seasoned computer users, I was met with such a barrage of questions on the first day, that I barely had time to address them—even with Ms. Chan at my side.

Computer training additionally focused on Internet etiquette—especially common problems like "flaming" (using foul language or abusing other correspondents) or using capital letters (which has the same effect as shouting). Students were also informed that their e-mail correspondence would be monitored in the same way that other traditional classroom activities would be—with close attention.

Finally, students were given a user guide, detailing procedures such as opening and closing files, saving documents, copying onto floppy discs and using our specific e-mail program and web browser. It also included specific instructions for saving data. For example, I required students to keep a copy of all work on their own floppy disc and store it in a shared file entitled "Exchange." This was largely for backup purposes—in an "open" computer lab, it is always possible for someone to accidentally (or intentionally) delete someone else's work. Therefore, user guide proved to be a good reference for completing such operations, that student could refer to throughout the exchange.

3.5.3.5 Peer Evaluation

With the help of a rubric and the teacher's nearby guidance, BSTC students were taught to evaluate how well their peers (both same-class and foreign) followed task objectives for their imaginative essays. For example, the rubric asked students to assess several structural features such as clear and representative titles and correct paragraph indentation. They were also asked to

assess substantive features, such as expressing perspective, use of sensory details and making smooth transitions between paragraphs (Appendix "G").

Students were reminded that honest feedback was essential for peer evaluation, as was a frank yet courteous response. It was explained that in this manner, they could best help their peers make revisions so their work would be of the highest quality possible. I explained that giving poor work a high rating (or vice versa) did not help classmates learn, and poorly written work (as a result of inaccurate peer feedback) would be reflected in the final published anthology.

3.5.4 Establishing a Timeline

At an early stage of planning, Mr. Ziller and I established a mutually agreed upon timeline with a clear beginning and ending (Appendix "I"). Early scheduling was essential—especially in an international context where we had to work around the Lunar New Year, American Spring Break and differing exam schedules. In addition, I was concerned that if the project ended too close to the end of the academic year, one side or the other might fall behind and miss out on the most important goal—publishing student work.

Keeping scheduled appointments for exchanging student work was equally as important. Disappointment ran high when partner responses were tardy or failed to arrive altogether. For example, BSTC's culture box was mailed to Green River in early April, but Green River's reciprocal box did not reach Hong Kong until late August—long after BSTC students had departed from school. This situation created a fair amount of anxiety at the end of term, when BSTC students anxiously awaited the arrival of their partner's box. On several other occasions, Green River forgot to send correspondence on agreed-upon days, and even after friendly reminders, their essays trickled in one by one over the course of a week or longer, postponing our schedule.

Late or missing correspondence was misinterpreted for a host of problems like equipment failure, disinterest in the project, or irresponsibility. However, we found ways around these problems. I always kept several activities on the "back burner" that I could switch to if partner correspondence did not "come through" on time. As for the anthology publication, I stepped in to

manage unfinished jobs, so that 4E students would not have an unreasonable burden placed upon them.

Finally, I tried to avoid calling too much attention to our partners' tardy responses—especially since the students still enjoyed the exchange in spite of its minor setbacks. On one occasion, however, I entertained a whole-class discussion on reasons that Green River's correspondence might have been late: student health (several students out with the flu), school closures due to inclement weather (this happened on two occasions), and simply dealing with complex schedules on both sides. In fairness, my experience with Iowa was not the norm. During seven prior collaborative C-MC exchanges at Chinese International School, all participants met deadlines and fully participated in activities.

3.5.5 Establishing Teacher Rapport

In order to establish teacher rapport, Mr. Ziller and I exchanged personal information prior to the commencement of the exchange, including subjects taught, teaching philosophies, hobbies, family life and community involvement. We also shared information about student interests and important projects or academic themes that had been covered during the year (Appendix "J" and "K").

3.5.6 Technology Coordination

Technology coordination throughout our project was determined largely by available resources and equipment at BSTC and Green River. My key considerations were securing basic equipment necessary for the exchange, planning the physical arrangement of computers, preparing user guides, testing hardware and software, computer use surveys and posting e-mail address lists.

3.5.6.1 Securing Basic Equipment

I determined that the "basic" equipment for an exchange minimally consisted of 23 computers (one computer shared between 2 students), a printer, a modem, communication software, anti-virus software, a phone line and an e-mail account. Although we did not need state-of-the-art equipment—older

models would have worked fine—we were lucky enough to have access to a lab of 24 Pentium 2 computers and a laser printer. Our modem was sufficient, having the minimum speed of 14.4kbs required to prevent excessive time spent downloading files. However, since it was external and thus easy to remove, security was a concern.

BSTC had Microsoft Outlook communication software for receiving and sending e-mail, as well as an anti-virus program. The latter was especially important, since students regularly downloaded and copied information on their discs from unknown sources. If the school had not already owned this software, we could have accessed it for free over the Internet.

A dial-up line was used to connect with the internet, since a dedicated phone line was not available. The only down side to this was that the class phone had to be unplugged during the process of sending and receiving e-mail. Finally, our exchange relied upon a single e-mail account shared by 45 students and two teachers. Although all 24 computers were networked, only the teacher's station had a modem. Therefore, students had to come up to the teacher's computer—floppy disk in hand—to send their individual messages. We could have facilitated matters by purchasing software allowing students to send mail from their own computers, had time and budgetary constraints allowed.

3.5.6.2 Planning the Physical Arrangement of Computers

I had initially envisioned that the physical arrangement of computers would complement my teaching methods and goals. For example, during previous e-mail exchanges at the Chinese International School in Hong Kong, I clustered two computers together at various points in the room, allowing four students (two teams of two) to work together. This design best complemented my philosophical preference for cooperative learning and peer tutoring. However, this idea did not work at BSTC. I had enough difficulty fitting 45 students in a lab meant for only 24, while the narrow shape of the room precluded moving desks.

3.5.6.3 Testing Hardware and Software

Hardware and software was thoroughly tested by Mr. Ziller and myself before the exchange commenced—just in case something didn't work out!

3.5.6.4 Computer Use Surveys

Cornputer use surveys were given to students in both Hong Kong (Appendix "L") and Green River (Appendix "M") prior to the exchange. This was done to identify students who might require special assistance with hardware or software, as well as those with particular expertise in computers who could serve as peer tutors. The surveys also helped identify students with Internet access outside of class, who could send communication on behalf of others, if necessary. Post-exchange surveys were given to help track performance, progress and attitudinal changes over the exchange period.

3.5.6.5 Posting E-mail Address Lists

A list of student partners and their e-mail addresses were published in advance and stapled onto a dedicated class bulletin board in the back of the room. As for matching up partners, Mr. Ziller and I arbitrarily paired up two or three Hong Kong students with one from Iowa (Iowa had only 18 students while we had 45), trying to maintain a good mixture of girls and boys in each group. However, students could certainly have been matched on any number of criteria, including gender, interests or language ability.

3.6 Opening Communication

The opening of communication was met with excitement and enthusiasm, as students had been patiently waiting for days to make contact with their partner class. The basic steps used to accomplish this included a "welcome letter" from teachers to students (on both sides) and "ice breaker" activities for students.

3.6.1 Welcome Letter

A "Welcome Letter" from teachers to students on both sides, served to introduce the exchange and offer a short explanation about activities planned. It also included information about school characteristics, student backgrounds, as well as personal information about the teachers' experience, family life and hobbies (Appendix "N"). Taking time for this personal communication helped humanize the long-distance nature of the exchange and establish better working relations.

3.6.2 Ice Breakers

"Ice breaker" activities used in this exchange included personal introductions (Appendix "A") and Cloze exercises (Appendix "B").

3.7 Organizing the Joint Publication

The joint publication was the culmination of a semester of hard work, as well as the means for students to exhibit their potential. Therefore, a good deal of time was spent planning and negotiating its production. Planning the joint publication included negotiating project specifics, considering graphics, dividing up jobs, deciding on inclusions and considering costs.

3.7.1 Negotiating Project Specifics

Discussions on theme, length, format, title and overall appearance of the joint publication were held in each respective class. Classes then arrived at two or three "majority opinions," which they shared with their partners via e-mail. A second round of parallel class discussions ensued, culminating in a vote on the best proposition from each side. With a bit of additional e-mail correspondence, both classes arrived at consensus for final product design.

3.7.2 Considering Graphics

BSTC students borrowed a digital camera and scanner to take and scan graphics of their community, school and student body, to e-mail to their Green River partners. They additionally sent photographs, postcards and other visual aides by post (inside their culture box), which Green River photocopied with a colored printer (located at a nearby commercial business) and included in their anthology. Since Green River already had their own web page, Hong Kong students could view pictures of their community and campus, and print them out for inclusion in the anthology.

3.7.3 Dividing up Jobs

Publication was a time-consuming job, depending on mutual assistance from all parties. Our major tasks included editing final essays, spell checking, grammar checking, selecting titles, preparing photos for inclusion, preparing specialty pages (introductions, table of contents, etc.) and collating the finished product. Although the work was initially divided up equally between classes, Green River students had difficulty completing their workload towards the end of the semester—a job which I personally took on, rather than overburden 4E students.

3.7.4 Inclusions

Inclusions for our jointly-published anthology consisted of a colored cover with an original design, table of contents, introduction, list of all participants and e-mail addresses, names of Hong Kong cooperative learning groups (Iowa did not use cooperative groups), colored maps of Iowa and Hong Kong, colored photos with street scenes from Green River and Hong Kong, a brief paragraph about each partner school and finally, the essays and Cloze paragraphs from both classes.

In the 4E classroom, each cooperative group was responsible for taking care of one section above, and organizing and developing the information in any fashion they liked. They were given time in class for discussion and planning,

although some of the work (finding copies of maps or scanning photos, for example) had to be done outside of class time.

3.7.5 Considering Costs

Cost was an important factor of product design. At BSTC, white paper was free, although students opted to purchase a glossy specialty paper for the cover and a plastic binding, splitting the cost among them. Photocopying, however, was not free of charge, and students all pitched in to cover expenses.

3.8 Closing Communication

Closure activities for the exchange centered around a formal post-model evaluation, a final "goodbye" letter, the sharing of contact addresses for future correspondence (both e-mail and postal), displaying realia gathered from partner classes (maps, photographs, coins, stamps, bookmarks, etc.), and of course, enjoying the published anthology together as a class.

3.8.1 Evaluation

Evaluation of the exchange lent itself to both individual, small and large group assessment. BSTC students participated in lengthy discussions (first in small groups and then as a whole class) on the strengths and weaknesses of the exchange. They also completed pre-exchange (Appendix "L" and "M") and post-exchange surveys (Appendix "P" and "Q") and agreed to individual personal interviews (Appendix "O"), during which time they shared feelings, attitudes and made suggestions about the exchange.

Our Green River partners were not able to participate in a final analysis of the project, since their summer vacation started just as the anthology was completed. However, I mailed students a post-model evaluation, which about 80% returned (Appendix "P").

Teacher evaluation of the exchange occurred in several ways. First, Mr. Ziller and Ms. Chen answered a detailed questionnaire about the project's strengths and weaknesses. Ms Chen also gave lengthily, personal input about

the instructional model and its various features. Finally, I examined the video recordings and audio recordings made during the course of the exchange, to further study our model's usefulness and impact on students.

3.9 Conclusion

This chapter has described the key "ingredients" for a collaborative e-mail exchange at the secondary level, based on exemplary ESL theory, methods and pedagogy. It has also explained the various steps involved in producing such an exchange from start to finish, including locating partner classes, defining the scope and depth of the exchange, academic preparation, teacher coordination, opening and closing communication and producing a joint publication. Finally, it has detailed how this model was integrated into the ESL program at a "national curriculum" school—in this case, the Buddhist Sin Tak College in Hong Kong.

Chapter 4

METHODOLOGY

4.1 Overview

This chapter will focus on methodological issues related to the study, including a description of the research design and approach, the basis for case selection, an explanation of setting and participants, a description of instrumentation, discussion on ethics and an explanation of methods used for both quantitative and qualitative data analysis.

4.2 Research Design

This study uses a non-experimental, qualitative research design to examine and evaluate student ideas, opinions, and attitudes. The qualitative paradigm essentially holds that we can best understand how participants interpret their own world by examining their environments, thoughts, feelings, values, perceptions and actions (Owens, 1982). Seliger and Shohamy (1989, p. 120) add that:

> "The ultimate goal of qualitative research is to discover phenomena such as patterns of second language behavior not previously described and to understand those phenomena from the perspective of participants in the study."

Because "real world" situations are dynamic and have many interrelated parts that influence each other, we cannot separate them bit by bit, for understanding through scientific method. Instead, we must examine the context as a whole, retaining the "holistic and meaningful characteristics of real-life events" (Yin, 1984, p. 14).

4.3 Research Approach

This study relies on the case study approach, which Merriam (1988) believes is the best method for interpretation, description and explanation of

realms that cannot be seen such as thoughts, values and attitudes. Yin (1984, pp. 19-20) posits that case studies are the "preferred methodology for examining contemporary events—especially when the relevant behaviors cannot be manipulated." This is particularly true in a classroom situation, where manipulation might negatively affect student learning and would be considered unethical. Merriam (p. xi) agrees that case studies are particularly useful in the field of education, affording researchers a close-up look at "the processes and dynamics of practice."

Case studies go hand in hand with qualitative instrumentation. Merriam (p. 10) claims this design is often chosen "precisely because researchers are interested in insight, discovery, and interpretation rather than hypothesis testing." Guba and Lincoln (1981, p. 119) concur that they are well suited for the interpretation of meaning, including "cultural norms and mores, community values, deep-seated attitudes and notions, and the like." Case studies are therefore ideal for achieving my second and third goals: describing and interpreting student attitudes, beliefs and opinions about a collaborative e-mail exchange, while assessing C-MC application at a "national curriculum" school.

Case study research is also well suited for achieving my first goal—evaluating an instructional model. Olson (in Hoaglin, 1982, pp. 138-139) gives several reasons why:

- They suggest to the reader what to do (or not to do) in similar situations
- They examine a specific instance but illuminate a general problem which may be experienced by others
- They explain why an innovation works or fails to work, and discuss alternatives not chosen
- They evaluate, summarize, and conclude, thus increasing potential applicability to other situations

In addition, the "particularistic nature" of case studies allows for a focus on specific situations, events, programs or phenomenon, which makes them particularly good designs for studying practical problems (Merriam, 1988, p. 11). In my case, the particular situation is the investigation of a collaborative e-mail exchange between two secondary school classes, for the purpose of teaching English.

There are other positive features of case study research, including the fact that they tend to "spread the net for evidence widely" and use multiple sources of data collection for methodological "triangulagion" (Bromley, 1986, p. 23). Triangulation combines data from dissimilar methods in an attempt to provide a well-rounded, holistic description of phenomenon. It also corroborates information gained from the different sources to achieve "the best of each independent method while overcoming their unique deficiencies" (Denzin 1970, p. 308). Yin (1984, p. 40) claims that multiple methods of data collection is a major strength of case study research, "exceeding that in other research strategies, such as experiments, surveys or histories."

Case studies can also present certain limitations in their usage. One such feature is thick, rich description and analysis, which may be costly and time consuming to conduct. Another concern is that an unethical case writer "could so select from among available data that virtually anything he wished could be illustrated" (Guba and Lincoln, 1981, p. 378). Case studies can also oversimplify or exaggerate a situation, leading the reader to "erroneous conclusions about the actual state of affairs" (Merriam, p. 33). Readers can also be led to believe a case study is an account of the "whole," when it is actually represents a mere "slice of life" (p. 33).

Further limitations involve the issue of generalizability. Some researchers assume that one cannot generalize from a case study, whereas others argue that rather than applying statistical notions of generalizability to case studies, one should develop an understanding of generalization that is "congruent with the basic philosophy of qualitative inquiry" (Merriam, p. 34).

In spite of these caveats, the case study approach remains well suited for achieving specific research goals. Its potential for holistic description and "close-up" viewing of phenomena is ideal for investigating a complex social unit such as a group of students and their intricate web of attitudes, values and opinions towards an educational model.

4.3.1 Relatability

One goal of the case study approach is "relatability"—the extent to which one's own research details are sufficient and appropriate for a teacher working in a similar situation "to relate his decision-making to that described in the case study" (Bassey, 1984, p. 85). Aldeman, *et. al.* (1984) concurs that readers often relate case study particulars to their own understanding because case studies are "down to earth," "attention holding" and "in harmony with the reader's own experience." It is therefore my hope that teachers, in a variety of situations, will relate to my research and benefit from it in several ways:

- Increased understanding of the structure, organization and logistics of a comprehensive C-MC exchange, including caveats and advantages
- Viewing the holistic phenomenon of a C-MC exchange "close up", including social dimensions, cultural norms, values, deep seated attitudes, process and structure
- Increased understanding of the pros and cons of integrating a C-MC exchange into a "national curriculum"

4.3.2 A Single Case Based on Seven Pilot Projects

This is a single case study examining student attitudes and feelings towards a specific collaborative e-mail exchange at one local secondary school in Hong Kong—the Buddhist Sin Tak College (BSTC). It was developed after extensive experience with seven previous collaborative e-mail exchanges over a four-year period at Hong Kong's Chinese International School (CIS)—a private K-12 school where I taught secondary English and ESL from the fall of 1993 to summer of 1997.

The first of these exchanges, "United Nations Day Global Writing Project 1994" sponsored by Jakarta International School in September of 1994, involved thirteen secondary and elementary classes from all over the world, including CIS' Year 7 ESL students. The second exchange in the fall of 1995, sponsored by AT&T's "Learning Circles," involved fifteen classes from around the globe, including my Year 11 ESL class. "Sharing Holidays" in the fall of 1994, was a joint exchange between my Year 10 ESL students and an English high school class at Liberty High School in Issaquah, Washington. In winter of 1995, CIS Year 7 ESL students joined a high school English class in Virginia to develop an

exchange entitled "Heroes Project." The fifth exchange on "Material Culture" involved my Year 9 ESL students and an 8th grade English class at West Millbrook Middle School in Raleigh, North Carolina. In spring of 1995, my Year 9 ESL class jointly-produced a newspaper of current events and feature articles together with an 8th grade "Eastern Geography" class at Colegio Roosevelt in Peru. Finally, "Our Streets and Markets," a descriptive writing exchange between my Year 9 ESL class and four other English classes in Australia and the USA, was conducted in the spring of 1996.

These exchanges played the role of "pilot studies" and at times, allowed me to perform comparisons, analysis and evaluations between cases. They also provided a solid foundation of knowledge about C-MC in the ESL classroom, and were instrumental in developing my present model, including elements such as locating partners, setting instructional goals, negotiating details, building curricula, integrating the four language skills and developing activities based on exemplary methodology, pedagogy and theory.

Since documentation collected during these seven pilot exchanges was more or less of an informal nature (records were not as extensive as formal research requires), I will refer to my present research as a "single" rather than "multiple case" study. However, these early trials with C-MC exchange projects should not be entirely discounted, as they play a pivotal role in the development of my current research.

4.3.3 Generalization

Data collected from qualitative studies are not free from the context or experience in which each participant acts. Some qualitative researchers, therefore, avoid an objective search for generalization and look instead, for subjective meanings that explain the actions of people in real-life situations. Bassey (1984, p. 12) alternatively asserts that generalization might be possible and even desirable in some case studies, and that a "fuzzy generalization" can arise from studies of singularities, by which, the researcher can typically claim "that *it is possible, or likely, or unlikely that* what was found in the singularity will be found in similar situations elsewhere. . . ." Since this research draws on seven other cases for comparison, it is my hope to apply what I have

cumulatively learned, in order to make hypotheses which can be linked up with my less formal research of the past, and with the literature in this area.

4.4 Case Selection

Yin (1984) asserts that single case studies may be appropriate in one of the following circumstances:

- a critical case which meets all the conditions of testing a theory
- an extreme or unique case
- a revelatory case of previously inaccessible phenomenon

My research at BSTC loosely fits the "critical case" definition because unlike the first seven projects, it was carried out at a school bound by a strict "national curriculum" (The ESL curriculum at CIS was largely determined by individual teachers). In the past, I have spoken with numerous English teachers at "national curriculum" schools who wanted to integrate C-MC exchanges into their tightly regulated syllabi—but did not know how to do so due to time restrictions. My colleagues at BSTC reinforced this sentiment. I therefore argue that I am testing theory in a sense, to see if it is possible to integrate my model into "a 'national curriculum' syllabus," and if students at "national curriculum" schools feel that they benefit academically from such an experience.

Goetz and LeCompte (1984) alternatively believe that single case studies may be appropriate when making "ideal-typical-bellwether-case selections." This means that the researcher develops a profile of an instance "that would be the best, most efficient, most effective, or most desirable of some population and then finds a real-world case that most closely matches the profile" (p. 82). Following this argument, the BSTC students fit the definition of "ideal" subjects for a C-MC exchange at a "national curriculum" school for several reasons:

(a) BSTC is a "band one" school (the highest in a five-band rating system), composed of students performing in the top 20th percentile of their geographical location

(b) The 4E class (composed of 15- and 16-year-old students) was the highest scoring of five Form 4 sections at BSTC

(c) Most BSTC students had a basic computer background, while about half of them had in-depth computer experience and were simultaneously enrolled in a computer studies course

4.5 School Site Selections

My particular choice of school sites was guided by the following criterion:

- The school (and English department) following a national curriculum
- Having computer equipment required for a C-MC exchange
- Being an English medium school
- Being a secondary school
- Being a co-educational school
- The school granting access for my research

Since my current model is based on knowledge garnered from seven previous exchanges, it made sense to try and keep certain factors constant in order to apply past knowledge to a current situation: grade level, student age, gender, computer-to-student ratio and medium of instruction. The most notable difference at BSTC was that it adhered to a "national curriculum."

After establishing criteria for school selection, I consulted head educational officer Y. Y. Ng of the Hong Kong Education and Manpower Bureau, about potential research locations. He offered to advertise my project to secondary schools throughout Hong Kong that met my specifications, and a week later, informed me that the principal at BSTC, Mr. Wu Kee Huen, had expressed an interest. After several meetings with Mr. Wu and his staff, the project scope, goals and length were agreed upon.

4.6 Research Questions

The first steps in designing a case study normally include identifying issues and developing research questions based on particular issues (Bassey, 1984). Although I have already introduced three key goals and four research questions earlier on in Chapter 1 (pp. 3-4), I reiterate them again in the paragraph below, since they are central to my research design and methodological approach:

Research Goals:

1. To evaluate an instructional model for a collaborative e-mail exchange for ESL secondary students, based on exemplary ESL methodologies and pedagogical techniques

2. To examine the feelings, attitudes, opinions and beliefs of secondary school ESL students towards a collaborative e-mail exchange for the purpose of learning English
3. To examine the logistics of implementing a C-MC exchange at a "national curriculum" school

Research Questions:

1. Do student attitudes about computers and language learning or a combination of these two variables change as a result of this project?
2. Do computer background or keyboarding skills have an effect on attitude, interest or motivation towards collaborative e-mail projects for learning English?
3. Do students perceive that this project has helped them learn the four language skills?:
   (a) Writing
   (b) Reading
   (c) Speaking
   (d) Listening
4. Do students believe that collaborative, cooperative learning helps them learn English?

4.7 Setting and Participants

This case study was conducted at the Buddhist Sin Tak College (BSTC) in Kwai Chung, Hong Kong, a public secondary school for Form 1 through Form 7 students representing twelve- through nineteen-year-olds. BSTC was a "band one" school in a five band rating system, band one serving students scoring in the top 20 percentile on exams, and band five serving the bottom 20 percent. My research population was a class of 45 Form 4 students known as class "4E," composed of 17 girls and 28 boys ranging from fifteen to sixteen years old.

Class "4E," was considered the academic "top" of BSTC's five Form 4 classes. Since top-scoring students were given first choice of classes, the best ones traditionally entered this class. In addition, 4E students were required to take a difficult science curriculum, as opposed to an easier arts curriculum that attracted lower achievers. Previous graduates from 4E had the distinction of nearly 100% university acceptance, and at the time of my study, 18 of its 45

students were school prefects—an honor bestowed on only the most responsible and reliable students.

Kwai Chung is an industrial area in Hong Kong's New Territories, characterized by a mixture of public housing estates, factories and small but thriving businesses. It is known as a "satellite town," a term developed by the Hong Kong government in the early '70s to describe its attempt to draw heavy industry away from the Central Business District to outlying areas where cheap housing for factory workers could be built. Kwai Chung's population is largely working class and most families have members employed in local factories, although a growing number of factory owners and middle-management employees are relocating there.

BSTC school principal, Mr. Wu, estimates that at least 70% of his students live in public housing and approximately 15% percent of families receive financial aide from the government. Another estimated 15% are new immigrants from Mainland China who came to Hong Kong in search of better jobs and opportunities. Although a majority of parents hold low-level factory jobs, Mr. Wu describes BSTC families as being "stable" and "nurturing" with only 10% coming from broken homes.

Our foreign partners, hailing from Green River Community High School in Iowa, USA, were members of an 11th grade World Literature class composed of seven boys and eight girls between 16 and 17 years old. This was an "elective" English class, consisting of students from mixed academic backgrounds. Their academic disparity was highlighted by Mr. Zillier, their teacher, who indicated that five of the seventeen students were "not motivated," weak in reading and writing skills and "below average" for the school—scoring near the 50th percentile on a statewide standardized test, while another six students were on the academic "top ten" list for Green River's Junior class. In spite of these differences, Mr. Ziller estimated that 90% of the class would attend college or university, and that about half would graduate.

Green River is a working-class community located in Iowa's second poorest county, Richmond County—a small area of only 5,200 people covering 336 square miles. It is an agricultural region characterized by corn, soy and hay farms and a sizable livestock industry, with "slack" commercial development in

the town's small city center. Mr. Ziller classifies Green River as a combination of "lower middle class" families, as well as those "at or below the poverty level," indicated by the fact that over 35% of GRHS students receive free or partially subsidized lunches. Mr. Ziller believes that most of his seventeen students come from "stable, two-parent families" with both parents working very hard.

4.8 The Research Project

Research took place over a 12-week period, three days a week for a total of 5 class periods, beginning on February 8th and ending on May 26th, 1999. (This block of time was interrupted by two long holiday breaks—the Lunar New Year stretching for ten days in February, and Spring Vacation for another week in April, as well as several smaller Buddhist holidays). Mondays and Thursdays were double lessons (90 minutes in length), while Wednesday was a single fifty-five-minute lesson. The exception to this schedule came during the month of May, when all classes were shortened by 10 minutes, to allow extra study time for exams.

Classes were conducted in two locations: the designated 4E classroom on the 6th floor and the 4th floor computer lab. 4E students had never used the computer lab for English lessons before, since it was normally reserved for computer studies courses. Fortuitously, the start of our project coincided with Form 7's last week of instruction. When these students finished their exams and left school, we were able to make use of their scheduled computer lab time for our project.

4.8.1 The Classroom

The 4E classroom was typical of Hong Kong secondary schools—a square, concrete room just big enough to squeeze in 45 desks, with a wooden teacher's podium and work desk up front. A large, green chalkboard stretched across the length of the front wall, and an equal-sized corkboard stretched across the back wall. There was no air conditioning in the room, and overhead fans did not substantially lower room temperatures. Therefore, windows were

left open, allowing a good deal of "white noise" from roadside traffic and nearby construction sites to drift in.

4.8.2 The Computer Lab

This was a nicely furnished air-conditioned room with 24 Compaq Pentium II computers (model 350), connected as a LAN (Large Area Network). We used Microsoft Word 97 for software, a 56K modem and had two Hewlett Packard LaserJet printers (model 4B). Our Internet account was partially funded by the Hong Kong government.

Computers were located in four rows of partitioned work "carols" with eight computers per row. Although this theoretically worked out to 32 stations, several of the computers were broken or reserved for other school staff, leaving us with 24 computers. A "teacher's station" was located at the front of the room, attached to a long writing desk. This was the only computer connected to the Internet. Behind the teacher's desk was a large whiteboard for writing. Computer lab space was tight, and there was virtually no space to manipulate furniture or rearrange desks.

During our project's first week, all 45 students worked together in the computer lab at the same time—two students per computer: one with strong computer skills and another with weak skills. Although this idea was sound from a methodological standpoint, it soon became clear that the room was not large enough for such a large crowd. Students were uncomfortably packed behind desks, and there was barely enough room to walk over to teacher station to send e-mail. During the second week I divided the class in half during our two-hour lessons, allowing one group to work with me in the computer lab for the first "shift," while the other group studied in the 4E classroom with Ms Chan. At the end of the first hour, we switched places so that everyone had a chance to do the same work.

The fact that only the teacher's computer was linked to the Internet did not pose too much of a problem. Students normally finished their work at staggered intervals, which made it possible for most of the 23 students (in a divided class) to send their mail during the lesson. Those who could not finish on time had the

choice of sending the message after school, the next day at lunch, or allowing me to send it on their behalf.

4.8.3 Scheduling

Fitting my exchange into BSTC's framework was no simple matter, and concerns about timing, space allocation, exam schedules and the Hong Kong Form 4 syllabus had to be taken into consideration. When I began discussions for a three-month project in January, 1999, it became clear that I had to start immediately. The second semester was interspersed with several long holidays, and additionally, the school day was shortened by an hour during the month of May, for final exam preparation.

4.8.4 Working with a National Curriculum

The Hong Kong education system is largely exam-driven and many secondary English teachers believe their primary job is "preparing students to pass public examinations" (Richards, *et. al.*, 1992, p. 84). Reflecting these facts, BSTC English teachers as a rule, did not deviate from the curriculum and its associated textbooks and worksheets for exam-related skills. This fact ran contradictory to my own philosophy of education—that students should have a role in selecting topics and activities that are interesting and meaningful to them. It also clashed with my beliefs about the importance of using "real life" or authentic materials and experiences for learning English, as opposed to "designated" textbooks.

Before initiating the exchange, students and teachers assured me it would be best not to stray too far from the curriculum, no matter how tempting it sounded. I was told there is even a term known as "going outsy," applied derogatorily to those teaching "outside the curriculum." The prevailing philosophy at BSTC was that in the long run, students would not be tested on knowledge gained outside their textbooks—no matter how much learning occurred—and parents would complain if student test results were negatively affected by straying from the curriculum.

Keeping this in mind, I tried to reconcile two opposing philosophies, agreeing to teach a substantial number of items from the designated syllabus, while at the same time, giving students a choice within the broad curricular topics. I also extracted examples from textbooks and applied them to authentic learning situations. For example, when the syllabus called for lessons on "the imaginative essay," our class collectively discussed and negotiated a topic with our foreign e-mail partners and voted on the essay focus. Students could write on any aspect of this subject that they wanted to. When the curriculum called for a unit on "negative statements" or "connectives," we first read examples from the textbook and then transferred this knowledge to our collaborative exchange, using negative statements and connectives in our personal e-mail correspondence.

In this way, I was able to keep the integrity of the syllabus, while at the same time, allowing for student choice, negotiation and teaching with an authentic purpose—all requisites for an exemplary collaborative C-MC exchange. From an ethical standpoint, this also allowed me to integrate my research into the prevailing educational context, rather than barge in without regard for the national curriculum or English Department syllabi.

4.8.5 Human Resources

Ms. Winnie Chan, 4E's regular English teacher who had taught 4E since the beginning of the school year in August, co-taught the 4E class with me. This partnership allowed us to divide the class in half on "computer days" so that we could manage the large number of students. It was also advantageous having an extra "hand" to work with cooperative groups. Ms. Chan's input was invaluable in helping me get acquainted with BSTC culture, the syllabus, students and staff, as well as interpreting cultural-based behavior and Cantonese vocabulary that often worked its way into the classroom.

Assistance in setting up the computer lab and addressing technical problems was provided by Mr. Wai Sang Chan, BSTC's Head of Computer Studies and Francis Thong, Director of Computer Services at Hong Kong International School.

4.8.6 Research Ethics

Throughout this study, I followed appropriate procedures for getting permission to do research, as well as showing respect and concern for the research population, national curriculum and school personnel.

I initially submitted a research proposal to Chief Education Officer of the Hong Kong Education and Manpower Bureau, Mr. Y. Y. Ng, who in turn, approved the proposal and referred me to Buddhist Sin Tak College. Before starting my research there, all plans ranging from time schedules and classroom use, to testing and class content, were discussed, critiqued and approved by a panel of five persons at BSTC: school principal Wu Kee Huen, Curriculum Advisor W. K. Leung, English Department Chair Emily Man Wai Tam, 4E English teacher Winnie Chan, and Head of Computer Studies Wai Sang Chan. Many of their suggestions were integrated into my research design, in order to best accommodate student learning needs.

On a day-to-day basis, I worked in close collaboration with Ms. Chan, in order to draw on her past experience with 4E students. She gave generous feedback on my teaching methods, research techniques and instrumentation for data collection (pre- and post- model surveys, personal interviews, video tapes and audio tapes), and many of her comments and ideas made their way into this research.

All students, faculty and staff involved in the study were told up front about my research goals: to evaluate a model for a collaborative C-MC exchange with secondary ESL students at a "national curriculum" school, in order to gain insight on student thoughts, attitudes and opinions. Project participation was optional, although all of 4E students chose to do so. Parents were given a consent letter (Appendix "R") outlining the nature and scope of the study and data collection methods (including video recordings and audio recordings). Parental consent forms were returned and signed, all indicating a positive response.

Students were promised anonymity on surveys and interviews, as well as their comments and behavior in class. Respecting this promise, I have referred to all students by pseudonyms—both at Green River and BSTC. The school name "Green River Community High School," as well as our partner teacher—

"Mr. Ziller"—are also pseudonyms. Teachers or administrative staff at BSTC that I have referred to by actual names, have given their expressed permission for me to do so.

4.9 Instrumentation

Ten formal instruments were used for data collection in this study: pre- and post-model surveys, formal and informal interviews, teacher questionnaires, naturalistic observation, observation with a video camera, observation with tape recorder, a research journal, and document analysis of e-mail correspondence and class work.

4.9.1 Pre- and Post-Model Surveys

This research makes use of pre- and post-model surveys. The pre-model survey (Appendix "L") was used to gain baseline information on demographics and student attitudes, while the post-model survey (Appendix "Q") measured students' perceived changes in their own behavior, learning, attitudes and other affective or evaluative matters. Survey questions were developed after an extensive literature review in the fields of ESL and C-MC projects, as discussed earlier in Chapter 2.

Both pre- and post- model surveys were particularly useful means of data collection. Not only did they generate a significant volume of data in an unobtrusive way, but as Johnson (1994a, pp. 17-18) suggests, they allowed me to go beyond description and look for patterns in the data. They also helped highlight phenomena that are not easily observed, such as attitudes, motivation and self-concepts (Seliger and Shohamy, 1989). Although surveys can be superficial on their own—missing details and nuances that are difficult to record like micropolitics and school culture, and are sometimes shallow on coverage—in this case, the results were analyzed and interpreted in tandem with results from other approaches, allowing for the discovery of trends and themes from multiple data collection methods.

4.9.2 The Pre-Model Survey

The Pre-model survey was divided into four parts. The first part consisted of three *fill-in-the-blank* questions soliciting demographic information on age, sex and place of birth. The second part examined student background and ability level in English, computers and e-mail—both at BSTC and outside of school—involving both self-rated fill-in-the blank or multiple choice questions. The third section used a Likert-like scale corresponding to twenty questions, requiring the respondent to self-rate his/her ability, interest and confidence in certain English- and computer-related domains, as compared to other classmates. A five-tiered rating scale was used: 1=strongly agree, 2=agree, 3=neutral, 4-disagree and 5=strongly disagree. Seven of these questions were reverse coded (requiring negative responses to indicate a positive attitude) as a means of double checking respondent accuracy. The final section consisted of five open-ended questions soliciting detailed written descriptions of student feelings, attitudes and opinions about particular facets of the exchange.

4.9.2.1 Piloting the Pre-Model Survey

The pre-model survey underwent several testing stages before being administered to students in Hong Kong and Iowa. The first draft was submitted to a six-member "expert panel" in the fields of ESL and Educational Technology, composed of teachers and technology coordinators at the high school and university levels. Panel members included Dr. Vitela Arzi, Head of English Studies at Orot Israel College in Tel Aviv, Ms. Sara Schupack, secondary ESL teacher at National Experimental High School in Hsin Chu, Taiwan; Dr. Merton L. Bland, ESL teacher for the United States Information Agency in Vietnam; Mr. Tom Drake, Upper Primary School Technology Coordinator at Hong Kong International School, Ms. Bridget O'Brian, Lower Primary School Technology Coordinator at Hong Kong International School and Mr. Francis Thong, Technology Administrator at the Hong Kong International School. The combined experience of this panel helped ensure that the survey questions were clear, comprehensive and pertinent to the concerns of my study. After feedback from the panel and my tutors at Leicester, a final draft was piloted at the Japanese

School of Hong Kong (JSHK) on May 9, 1999, with a group of fifteen Form 2 students.

There were several factors that led me to pilot the survey at the Japanese school:

- Access
- Experience learning English
- Student/Teacher Rapport
- The possibility of starting up a C-MC exchange there

Firstly, I did not have access to another student body composed of similar ethnicity, age or language ability as my 4E population. Although BSTC offered four other Form 4 classes (in addition to the section I taught), I did not have permission to work with them, and spending a double lesson on matters unrelated to their curriculum would have been looked upon in an unfavorable light.

Access to and rapport with students at JSHK, however, was not a problem. I had been teaching a group of their Form 2 ESL students for eight months prior to working at BSTC, and had developed a good relationship with students and staff. I had also been exploring the possibility of setting up a collaborative e-mail exchange at their school, and therefore, it seemed logical to probe student attitudes towards engaging in such an exchange, in the form of a survey.

Students at the Japanese school did not constitute a perfect match with the BSTC research population—in fact there were some substantial differences between the two student bodies. However, I believe these differences were not so great as to negate the pilot's basic demands: pointing out problems with a survey's clarity, structure and meaning. The major differences in the JSHK student population were:

- They had studied English for roughly two years less than my target population at BSTC
- They were two years younger than my target population at BSTC (Form 2 rather than Form 4 students)
- They were Japanese students rather than Chinese students
- Their reading and writing abilities were not as high as those at BSTC

Nevertheless, I believe the JSHK population was appropriate for piloting this survey for additional reasons. First, I knew that the Form 2 class had an interest in using computers for learning English, and therefore, would take questions about collaborative e-mail exchanges seriously. Second, I knew the Form 2 class well enough to determine that their responses, in general, would be honest and reliable—at least as much so as those at BSTC.

One concern was that there might be differences (cultural or individual) in the way Japanese and Chinese students respond to or interpret specific questions. This was a matter I had no control over. Another concern was that unfamiliarity of terms might affect survey clarity. In an attempt to overcome this potential problem, difficult vocabulary was translated into Japanese with the assistance of a Japanese language teacher. In addition, I made sure my instructions were clear and I gave students ample opportunity to ask for clarification. In the end, the Japanese students had relatively few questions, and after the pilot's administration, only minor adjustments were made to the instrument.

Many of the adjustments involved rephrasing for clarity's sake. For example, the third question "Where were you born?" was changed to "Where were you born? _____(city)_____ (country)", and question 7, "Have you used a computer to learn English in school before?," was rephrased as "Have you ever used a computer in your **English** classes at school?"

Other changes involved the re-structuring of questions. For example, question 5 (How much time have you spent using a computer?) assumed that the student, indeed, did have a computer. This was changed to read "Do you have a computer at home?" If the answer was "yes," the next questions continued, "How long have you had it?" and finally, "How many hours a week do you use it?"

Additional adjustments involved simplifying phrasing (questions 27-30), adding extra choices on multiple choice options, adjusting typographical errors and adding questions 25 and 26. For the most part, the content, order and length of survey remained unchanged.

4.9.2.2 Pre-Model Survey Administration at BSTC

The Pre-model survey was distributed to 4E students during a normal double class period of 90 minutes on February 10, 1999. All difficult words were translated into Chinese, although students were told they could consult a dictionary if they came across other problematic terms. Before administration, I explained that I was interested in students' honest answers. In exchange, I assured the anonymity of student responses, promising that no one at BSTC (other than myself) would have access to the survey forms. Students finished within the 90-minute period and asked relatively few questions during the survey administration. It appeared to be self-explanatory and unproblematic.

4.9.2.3 Pre-Model Survey Administration At Green River

Mr. Ziller was given instructions to administer the Pre-model survey in the same manner that I had, and to the best of my knowledge, he did. Green River students were also promised anonymity, as well as being guaranteed that local teachers or administrators would not have access to their answer forms.

4.9.3 Post-Model Survey

The Post-model survey administered to BSTC students on May 27, 1999, was similar to the Pre-model survey in terms of format, length and the nature of questions. Fifteen of the twenty Likert-style questions were identical to those on the Pre-model survey (although arranged in different order), and twenty new Likert-style questions and five "fill-in-the-blank" questions were added—all dealing specifically with the C-MC exchange. I did not pilot the post-model survey for two reasons: (a) it was very similar to the pre-model study and (b) all new questions were project-specific, requiring experience with our particular C-MC "model" to answer—something that would have been impossible to arrange with another student population.

4.9.4 Informal Interviews

Informal student interviews were conducted throughout the duration of the project—sometimes when I needed clarification on a particular event or phenomenon, and other times, just for the sake of "staying in tune" with respondents. Merriam (1988, p. 86) believes that unstructured formats fare well when compared to other data collection techniques in terms of validity of the information obtained, allowing for "ample opportunity to probe for clarification and ask questions appropriate to the respondent's knowledge, involvement, and status." Guba and Lincoln (1981, p. 187) concur that informal interviews are a useful technique, allowing the inquirer to "redirect, probe, and summarize."

Informal interviews allowed me to confirm or reject my interpretations of observed classroom or computer room behavior, as well as gaining insight into puzzling phenomena or cross-cultural differences. They also helped establish good rapport with participants. Notes were taken in my field journal after most informal interviews.

4.9.5 Semi-structured Personal Interviews

This research design makes use of the semi-structured personal interview—a format that permits both standardization and flexibility while eliciting student response. It consists of specific, well-defined questions determined in advance, but at the same time, allows for elaboration in the answers and flexibility on subsidiary questions (Sudman and Bradburn, p. 167). My interview consisted of 20 main questions, which were all asked the same way, and in the same order to each respondent. Follow-up questions, however, were not the same. They were guided by a list of issues to be explored, but the order or number of subsidiary questions were not set ahead of time—that all depended on the interviewee's initial response. For example, when students did not give complete answers or when they brought up new or interesting topics, I would ask one or more of the sub-questions to encourage elaboration.

The interview questions consisted of several styles outlined by Patton (1980): open-ended questions, knowledge questions, opinion/values questions and feelings questions. The open ended questions ("What did you think about

this project?") allowed respondents to take whatever direction they wanted to in answering. Knowledge questions ("How would you describe this project to another student who knows nothing about it?) solicited factual information. Opinion/values questions ("What would you change in order to make this a better project in the future?") were aimed at understanding students' thoughts on particular issues, goals, desires and values. Finally, feeling questions (students were asked to choose from a list of adjectives to describe their feelings about particular aspects of the project) looked at students' emotional responses their experience and thoughts (Appendix "O").

All interviews were tape recorded with student and parental permission (Appendix "R"), while I simultaneously took shorthand notes. I additionally made note of non-verbal behavior like a student answering "yes" to a question but simultaneously shaking the head "no." Taking "close-to-verbatim" notes was a practical solution for the number of interviews I conducted. However, when necessary, I selectively went back to the tapes to double check for accuracy.

Fowler (1993) notes particular advantages in using the personal interview: probing for adequate answers, focusing on peripheral observations like visual cues and body language, and building rapport and confidence with the interviewee. Kitwood (1977) additionally notes that during interpersonal encounters, people are more likely to disclose aspects of themselves such as thoughts, feelings and values, than they would in a less human situation. This fact was particularly relevant for my own goal of assessing student perceptions towards learning English through a C-MC exchange.

Critics of the personal interview, however, note its potential for human bias, misinterpretation of data, and influence upon the respondent's answers. Merriam (1988, p. 75) cautions the interviewer to minimize "gross distortion" by being neutral and nonjudgmental, being a good reflective listener, refraining from argument, and being sensitive to verbal and nonverbal messages. In my case, I relied on ten years of training conducting interviews as a journalist and oral historian, to help offset potential problems.

Fowler (1993) suggests three additional steps to increase internal validity on interviews: (1) making questions as reliable as possible, (2) asking multiple questions with different question forms, and (3) when putting people or things

into ordered classes along a continuum, to have more categories than fewer. This study has attempted to accomplish all three. First, I made the questions as reliable as possible by working towards omitting ambiguity and vagueness. I standardized the presentation and translated potentially difficult words into Chinese, in hopes that questions would mean the same thing to all respondents. I asked several questions twice, in different formats (once as a Likert Scale question and again as a written "fill-in-the-blank"), to double-check responses. I also used seven negatively loaded questions to avoid the tendency of students answering positively to all positive-loaded questions and vice versa. In the section where students were asked to chose from a list of adjectives, I included a large variety of choices, including the choice of "other," so that a respondent could use his/her own words.

In the end, the semi-structured interview proved to be a worthwhile tactic. Although it was particularly time-consuming (taking between 20 and 40 minutes per respondent), it yielded perhaps the most powerful and detailed responses of all of my data collection methods. This was true for several reasons. Respondents had a chance to answer in their own words—an opportunity that many told me they were thankful for. Dexter (1970), in fact, concurs that self-analysis and clarifying ones own thoughts and experiences, are rewards in and of themselves. Careful probing and delving into student responses also allowed me to understand particular issues in greater depth, and in a way that simple observation or survey data had not allowed.

4.9.5.1 Piloting the Interview

This interview was piloted with four 4E students on April 21, 1999. I could not administer it to students outside of 4E, since questions were project-specific, requiring experience with our model in order to answer. Few substantive changes were made as a result of the four pilot interviews. In fact, most changes were made on the spot as I read the questions out with a more natural word choice than that which I had originally chosen. However, the basic content of the questions remained unchanged. In the end, I did not re-interview the four pilot students—I simply changed the questions for the remaining 41 students to match or nearly match the questions given to the pilot group. Patton (1980, p.

196) believes that standardization of questions is not essential for the case study researcher, whose goal is to "have access to the perspective of the person being interviewed." However, I did not want to exclude the possibility of quantifying results at a later time, and therefore, kept 20 main questions consistent for all respondents.

4.9.6 Teacher Questionnaires

At the completion of the project, Mr. Ziller and Ms. Chan were given questionnaires soliciting their opinions on various aspects of the exchange. Their comments were also evaluated and used to corroborate data gained from other sources (Appendix "S" and "T").

4.9.7 Observation

This study made use of four types of observation: participant observation, observation with an audio recorder, observation with a video recorder and research journal notes.

4.9.7.1 Participant Observation

Guba and Lincoln (1981, p. 213) cite the value of participant observation, claiming that in situations where motives, attitudes, beliefs, and values are concerned, "the most sophisticated instrumentation we posses is still the careful observer—the human being who can watch, see, listen...question, probe, and finally analyze and organize his direct experience." As suggested by Merriam (1988, p. 92), my "participant observer" activities were known to the group but were subordinate to my role as a participant.

Participant observation was useful for recording phenomena as they happened, allowing me to use my own knowledge and expertise for interpretation. I was also able to witness simultaneous phenomenon, for example, one group of students showing boredom or disinterest, while another demonstrating enthusiasm. Finally, participant observation allowed for

observation of non-verbal and extra-linguistic behavior such as speaking rates and loudness.

Critiques of participant observation point to the highly subjective and therefore unreliable nature of human perception. Patton (1980, p. 123) suggests that careful training in learning how to write descriptively, taking disciplined field notes, knowing how to separate detail from trivia, and using rigorous methods to validate observations can help overcome this problem. In my case, I hoped that my own four years of training in ethnography and descriptive writing gained from a Master's degree in American Studies, would help mitigate potential problems.

4.9.7.2 Observation with Audio and Video Recorders

Ried (1982) suggests using film, video tapes and audio tapes for observation. However, I relied on these techniques only as secondary data collection methods, due to the fact that recording was awkward and burdensome in my particular situation. Managing a class of 45 students engaged in complex, cooperative tasks with timed instructions, did not leave much time to turn on and off video cameras or tape recorders. In addition, the classroom and computer lab were extremely small, and moving from one end to the other was difficult at best. Finally, the noise level inside the classroom was often loud enough to preclude accurate interpretation of recorded conversations.

In the discussion below, I first consider observation with audio recorders, including caveats of audio recording in the classroom, range of teaching activities during recordings, student response to recordings and results.

4.9.7.3 Audio Taped Observation

Students were randomly selected to be audio taped with two "Walkman-sized" recorders on March 1st, March 29th and April 12th of 1999. The April 12th and March 29th sessions (4E classroom) were recorded during small group cooperative learning activities, while the March 1st session (computer lab) was taped during a "one-on-one" peer tutoring task.

There were several caveats of audio recording that need mentioning at this point. Although audio recordings aptly documented the general content of

4E conversation, particular words and sentences were difficult to discern at times for a variety of reasons. On one occasion, recordings were made during a cooperative learning when all 45 students were speaking at once, creating a hearty din. Recorders were placed in the center of four-person groups—a good distance from individual speakers' mouths—and therefore, did not "pick up" quieter voices as well. Later during this same session, a fire alarm and drilling noise from a nearby construction site interfered with student dialogue. On another day, recordings were made in the computer lab during a "quiet" activity, which prevented students from speaking clearly.

In light of these difficulties, transcriptions of audio recordings (found in the Data Analysis chapter) are only approximate accounts of actual dialogue. Therefore, wherever possible, I have tried to use triangulation to substantiate conclusions based on audio recorded or video recorded sources.

To facilitate the transcribing of audio taped conversations, I have employed the following symbols:

- A question mark (?) signifies missing words or sentences that this researcher could not hear or understand.
- A slash mark between words (word/word) indicates two speakers were talking at once. For example, (Yes/No) means one speaker said "yes" and another simultaneously said "no."
- Parenthesis indicate my personal interpretation of various factors like laughter, anger, tone of voice and intensity of voice. For example, (spoken loudly and with sarcasm).
- When voices were distinguishable from one other, each speaker was identified by number, gender or occupation as follows:

  B1 = boy one

  B2 = girl two

  G1 = girl one

  G2 = girl two

  T1 = teacher one

  T2 = teacher two

- When voices were indistinguishable from one another, I used the symbol (=), indicating the change of a speaker's turn:

  = Shall we start?

  = Sure, why not.

  = What about page one?

There were a range of four different activities that were recorded during three audio taped lessons: peer critiques of "imaginative essays" (4E classroom), "one-on-one" peer tutoring (computer lab), small-group peer tutoring (computer lab) and small group discussion and negotiation (4E classroom).

It is impossible to assess which of the recorded activities were most successful, due to the fact that only a small number of recordings were made and that the audio recorder—a fairly obtrusive means of observation—may have affected student performance. Although Patton (1980, p. 191) suggests that subjects can become accustomed to taped observations and will eventually carry on as if they were not being recorded, this phenomenon happens over time. Since I only had two audio recorders at my disposal (involving a maximum of 9 students at a time), it would have taken several months to record all 45 students with enough frequency for them to become "accustomed" to recorders.

Student response to audio recorders was varied. While some subjects were uneasy and acutely aware of the recorder, others carried on with tasks, seemingly unbothered by the machine's presence. Student response to the recorders generally fell into three distinct categories:

(a) **General embarrassment and uneasiness:** Marked by giggling, silliness and student reference to or acknowledgement of the audio recorder. In these cases, students had difficulty focusing on learning tasks, did not follow directions well, and did not fully meet learning goals.

(b) **Occasional student reference to and awareness of the audio recorder:** Students generally followed directions, carried out tasks and met the minimum requirements of their learning goals. Although student work was often interspersed with bouts of giggling and laughter, the group was always able to refocus on the task at hand.

(c) **No notable discomfort or awareness of the audio recorder:** Students took their work seriously, followed directions, performed at a high standard, and met learning goals.

Not surprisingly, I found a relation between students' level of discomfort and their ability to meet learning goals. Those who were comfortable with the recorder performed learning tasks to a much higher degree than those who were uneasy with it did. Being aware of this fact, I have chosen to focus mainly on students in the "C" category—those who did not experience discomfort or unease—in order to view behavior and attitude that was as close to being

"unaffected" as possible. However, I have included one excerpt from the "general uneasiness and embarrassment" category, for comparison's sake.

Audio recording results showed many 4E students participating in a variety of exemplary language learning activities (cooperative learning, peer tutoring, process writing, project-based learning) to achieve learning goals and demonstrate knowledge of new skills required for a collaborative C-MC exchange. These skills included sharing and interacting positively with others, meeting group goals, remaining on task to complete assignments, creating personal knowledge, negotiation and compromise. However, audio recordings also showed that some 4E students were keenly aware of the recorders, which negatively affected their performance of tasks.

Therefore, audio taped and video taped evidence cannot confirm the success or failure of our learning model; at best, it can highlight "instances" of success amongst a much larger field of unknown results.

In the following discussion, I consider observation with video recorder, including caveats, range of teaching activities during recordings and student response to the recorder

4.9.7.4 Video Taped Observation

Students were randomly selected to be video taped on March 15th, March 29th and April 12th of 1999. The camera was placed in a far corner of the room (the corner that could capture the widest possible angle) and whoever happened to be sitting in front of it was recorded. The March 15th and April 12th sessions were recorded in the 4E classroom during small group cooperative learning activities, while the March 29th session was taped in the computer lab during a combination of "one-on-one," small group and individual tasks.

While video recordings were most useful to document extralingual factors such as the subjects' body language, facial expression, clustering, movement and physical reaction to assignments, there were several inherent caveats as well. For example, the camera could not pick up on individual conversations, and due to the tight size of the classroom and computer room, the lens—even at its greatest distance from the group—could only capture a small slice of

classroom activity at any given time. Extralingual factors recorded on video tape were used to corroborate findings collected through other observation methods such as audio recordings, natural observation, surveys and interviews.

There was a range of four different activities recorded during three audio taped lessons: small group topic selection for imaginative essays (4E classroom), peer critique of "imaginative essays" (4E classroom), "one-on-one" peer tutoring (computer lab) and sending e-mail (computer lab).

Student response to video recorders was largely positive, and they seemed less bothered by the presence of the video camera than the small audio recorders on their desks. One reason may have been the camera's location in a distant corner of the room. In addition, since the camera lens was set on wide angle—taking in whatever activity was in its range—students did not feel "picked on" or "highlighted," as was the case with the audio recorder.

During video recorded lessons, virtually all students carried on with class work without undue attention being given to the equipment. In fact, most students did not look at the camera or acknowledge that they were being recorded. To the contrary, several students walked right in front of the lens and carried on with multiple tasks—in a seemingly "normal" way.

There were several exceptions to this. For example, at one point, four or five students came up to look into the camera's eyepiece and talk directly into its microphone. However, after their curiosity had worn (several seconds later), they returned to their seats, resumed work and left the camera alone.

4.9.7.5 Documenting Salient Features of a C-MC Exchange

The video camera was able to document several salient features of a C-MC exchange in action: roundrobbin activities, desk arrangement for cooperative learning, students working on individual roles to meet group goals, student-oriented activities and peer-critiques. However, as with audio taped evidence, video recordings could not confirm the success or failure of our learning model. It could only indicate that the model appeared successful when looking at a small portion of the student population (the portion that was filmed), most of the time.

4.9.8 Research Journal

Spradley (1979) suggests making an introspective record of personal biases and feelings in order to understand their influence on the research. I have done so in the form of a research journal used for taking notes after each class or computer lab session, as well as for discussions and interviews with students or staff. The journal additionally contains a record of my own ideas, opinions, fears, mistakes, confusions, breakthroughs and problems that arose during the field work, as they naturally occurred.

4.9.9 E-mail Documents

All electronic messages generated during the project were saved for analysis, including class assignments, informal letters written outside of class time, "discussions" between teachers and students in both countries, shared text and grading rubric. I also saved messages generated before the project, such as correspondence related to finding a partner class (Merriam, 1988).

4.10 Interpretation of Data

Research gathered from this study is interpreted primarily in terms of qualitative data analysis, with quantitative instrumentation and methodology used to back up or corroborate qualitative findings, or at times, dispute evidence gathered by qualitative means. In the following paragraphs, I will discuss how both qualitative and quantitative data analysis were utilized in this study.

4.10.1 Qualitative Data Analysis

Qualitative data analysis is primarily inductive. Patterns, themes, and categories of analysis emerge out of the data, rather than being imposed prior to data collection and analysis. Inductive analysis begins with specific observation and builds towards discovering general patterns. Categories or dimensions of analysis emerge from open-ended observation as the researcher tries to make sense of the patterns that exist and attempts to understand the multiple interrelationships among dimensions that emerge from the data.

Data analysis during this study, was performed according to three steps above. First, data were classified and interpreted as belonging to several different categories. Then, comparisons were made between the data from different respondents and units of information were compared one to the next, in order to discover recurring regularities or divergences. Finally, data was interpreted, using conceptual frameworks from the literature review to support tentative hypotheses and look for new ones (Glasser and Straus 1967, pp. 39-40).

4.10.1.1 Reliability

Reliability in quantitative research refers to the extent to which one's findings can be replicated over time. However, social science researchers believe that human behavior is never static and that there is no single reality, which if studied repeatedly, will give the same results (Merriam, 1988, p. 170). Therefore, when working with case studies, Lincoln and Guba (1985, p. 228) suggest that "dependability" or "consistency" of results take precedence over the traditional search for "reliability."

There are several ways to achieve dependability and consistency within a case study while proving its worthiness and adequacy: methodological triangulation, prolonged data collection, member checks, developing thick description and obtaining independent feedback from peers (Goetz and LeCompte, 1984; Merriam, 1988; Patton, 1980).

Methodological triangulation combines dissimilar methods of data collection in an attempt to provide a well-rounded, holistic description of phenomenon. It also corroborates information gained from different sources, achieving "the best of each independent" method "while overcoming their unique deficiencies" (Denzin 1970, p. 308). This study relied on 10 different data gathering techniques, as described in this chapter, as a basis for triangulation.

Prolonged data gathering allows the researcher to enter a situation, "learn the language" and become accepted, trusted and ultimately unnoticed during data collection. It also permits the researcher to identify the atypical situation against popular trends so that the significance of an event can be assessed

(Owens, 1982, p. 15). My teaching term at BSTC began on January 8th, 1999 and lasted through May 28th, 1999, amounting to three months in the classroom. During this time I taught a minimum of five hours per week (spending 25 hours per week on campus) and became immersed in daily classroom activities to the point where I felt I could leave early impressions behind and gain a deeper level of understanding of the situation I was immersed in.

"Member checks" were used to continuously corroborate data and perceptions with "relevant others" in the organization (Owens, p. 15). I asked for opinions and interpretations of phenomena from various participants throughout the duration of this study, including 4E students, other BSTC students, English teachers, other content teachers, administrative staff and support staff.

Peer consultation or feedback allowed me to disengage from the setting and discuss the e-mail exchange with qualified, interested peers, including Ms. Chan and other Form 4 English teachers, the school principal, curriculum director and head of computer studies, as well as "experts" from other schools.

Finally, Guba and Lincoln (1981, p. 62) suggest leaving a deliberate "audit trail" of evidence so that someone external to the inquiry can review the process and results and ascertain that they were appropriate and credible or not. My "audit trail" consisted of a research journal, the compilation of raw notes from interviews and observations, edited summaries of notes, records of meetings, documents used as data sources, and interview guidelines.

4.10.1.2 Validity

Internal validity—the ability of the research to accurately describe the phenomenon which it is intended to describe—may be a particular problem for case study research. Patton (1990, p. 14) asserts that in qualitative research, the researcher is the instrument and validity "hinges to a great extent on the skill, competence, and rigor of the person doing the fieldwork" (p. 14). In this case, I hoped that my background as a journalist and historical researcher, as well as my experience in writing ethnographies, would offset this potential problem.

Another threat to internal validity centers on whether students have answered honestly on surveys and interview questions. Bearing this in mind, I

asked all students to be as honest as possible with their responses so that I could better develop my model to help future students (and possibly their own class) learn English better. Having worked with 4E for three months at the time, I had gained a certain level of student trust, and felt secure that they truly wanted me to develop the best model possible to help them learn English.

I additionally built internal validity into this study by performing member checks (Guba and Lincoln, 1981), engaging in long-term observation (Goetz and LeCompte, 1984), methodological triangulation (Denzin, 1970) peer examination, and reporting researcher biases (Merriam, 1988) and making interview and survey questions as reliable as possible (Fowler, 1993).

External validity—the extent to which the findings can be applied to other situations—was not one of the primary goals of this study. Instead, my objective was "relatability"—that other researchers or teachers could relate my findings to a similar situation of their own. Thus, I have followed recommendations to establish the "typicality of the situation" so that users can make comparisons with their own situation (Goetz and LeCompte, 1984).

4.11 Quantitative Data Analysis

Quantitative Data used in this study comes primarily from the pre- and post-model survey—specifically, the five-tiered, self-rating Likert-like scale on ability, interest and confidence in certain English- and computer-related domains.

4.11.1 T-Testing

A T-test for correlated samples was performed on these Likert scale ratings for pre- and post- model questions with the same or very similar wording, in order to determine whether there were statistically significant differences between the pre-model and post-model mean scores. The original coding I used on surveys was: (1=agree strongly, 2=agree, 3=neutral, 4=disagree and 5=disagree strongly). This coding was subsequently reversed for two reasons: a) because people generally associate high numbers with positive ratings, and b) so that changes in the mean ratings of variables from a pre-model item to its

post-model counterpart, should be positive if the change was towards the more positive end of the scale.

One additional complication was that question 20's pre-survey wording was stated positively, whereas its post-survey counterpart was stated negatively ("My classmates in Hong Kong can/cannot help me improve my English writing by discussing my compositions in groups"). The post-survey wording was therefore changed, so that it read the same as the pre-survey model. This necessitated recoding the variable twice: once to account for the change of polarity from negative to positive, and the second time, to account for the change in the direction of the scale. The results of the T-tests are listed in Chapter 5 (Table 5.2), followed by discussion on statistically significant differences.

4.11.2 Correlation of Input and Output Measures

Next, correlation between "input" and "output" measures were examined. Input measures included aspects of the individual, which were measured by the pre-model survey (for example, computer familiarity) that might reasonably be supposed to have affected the outcome of the program (for example, student reaction to the program). Output measures included aspects of the individual, which were measured by the post-survey (for example, self-assessed improvement in writing), that could be said to have reflected the student's reaction to the program (negative or positive impression, for example).

First, "input" and "output" variables of similar topics were identified and grouped together (Appendix "U"). For example, in the four statements below, it is reasonable to assume that all items are measuring, to a greater or lesser extent, the same underlying trait of confidence in English:

1. I enjoy learning English in school
2. I can write an English composition with ease
3. I can speak English with ease
4. I can read English with ease

Since there were a considerable number of variables involved, I did not take individual items from the two surveys and treat them as individual variables, or the analysis would have become too complex. It is also likely that an individual's

score for a single item would be a less reliable measure of a hypothesized attribute (i.e. motivation, satisfaction, etc.) than the aggregate of scores for several items. Therefore, variables were grouped in related categories, to arrive at an aggregate score for grouped items.

The next step was performing a reliability analysis of these grouped items, measuring the internal consistency of aggregate scales to make sure they could be interpreted as measuring a single trait. This analysis gives a reliability coefficient (Crownbach's Alpha) for each scale, with a value. The higher the value of this coefficient, the more reliable and coherent the scale can be considered to be. Conventionally, 0.075 is the minimum required. Table 4.1 shows the reliability scales and their alpha values. As can be seen, where reliability levels did not meet the conventional criterion, individual items were omitted when this led to improvement in the scale reliability.

Alpha Values for Input Measures

Table 4.1

Scale	*Alpha*
INPUT MEASURES	
1. **Familiarity with Computers ("CANDO")** Variables: CANDO1, CANDO2, CANDO3, CANDO4, CANDO5, CANDO6, CANDO7, CANDO8, CANDO9	0.8067
Remove CANDO5: Variables: CANDO1, CANDO2, CANDO3, CANDO4, CANDO6, CANDO7, CANDO8, CANDO9	0.8177
2. **Self-Assessed Ability in English ("SELFASS1")** Variables: LRNENG, WRITE1, SPEAK1, READ1, UNDSTD1	0.7381
Remove LRNENG: Variables: WRITE1, SPEAK1, READ1, UNDSTD1	0.7741
3. **Prediction of Improvement ("IMPROV")** Variables: ENGWRIT1, ENGSPK1, ENGREAD1, ENGLIST1	0.6533
4. **Extrinsic Motivation ("EXTMOTIV")** Variables: REQUIRE, OTHRCRS1, PARENTS	0.3028
5. **Confidence in relation to the project ("CONFID")** Variables: NERVOUS1, CLSMTS1, GENCONF1, EMBRS1	0.4310

6.	**Attitude to the use of computers in the English Class ("ATTCOMP")**	
	Variables: TYPIST, NOTINT1, BYHAND, FASTER	0.5125
	Remove TYPIST:	
	Variables: TYPIST, NOTINT1, BYHAND, FASTER	0.6126
	OUTPUT MEASURES	
7.	**General Satisfaction with the Project ("IMPROVED")**	
	Variables: ENGWRIT2, ENGSPK2, ENGREAD2, ENGLIST2, COMPUSE, HLPCOM, REVISE, GOODRES	0.8489
8.	**Self-Assessed Ability in the Four Skills ("SELFASS2")**	
	Variables: WRITE2, SPEAK2, READ2, UNDSTD2	0.6725

Taking 0.75 as the criterion level, only the scales "CANDO" and "SELFASS1" (among input measures) and "IMPROVED" (among output measures) were considered reliable. The Alpha scales for all other groups above (Table 4.1) indicated low reliability, to the extent that their aggregate scores could not confidently be used as an index of the hypothetical, underlying trait. However, I decided to include the second output measure "SELFASS2" in my analysis, because although its reliability was below the criterion level, it was still high enough to indicate that there was something substantial being measured. I also used an additional input variable ("HRSWEEK") from the pre-model survey (Table 5.13), which measured the hours per week that students spent using the computer at home. This was used as an additional measure of confidence in computer use before the project began.

The correlation between the input and output variables related in this way are presented and discussed in Chapter 5 (Table 5.13).

4.12 Conclusion

In conclusion, this chapter has described this study's research design, approach and basis for case selection, and has given a description of research setting and participants. It furthermore details the use of multiple methods of data gathering to collect a variety of information for examining and analyzing the three goals and four research questions which guided this study.

In the next chapter, this data will be analyzed using a predominately qualitative paradigm, keeping in mind important issues of validity and reliability. However, qualitative data from pre- and post-model surveys will be assessed as a secondary method for triangulation of results.

Chapter 5

DATA ANALYSIS

This chapter examines, evaluates, and analyzes data related to the main goals and research questions that guided this study. First, I present a general summary of demographic statistics about the 4E student population at BSTC. Second, I review this study's three main goals and four research questions, as previously stated in Chapter 1. This is followed by an analysis of each separate research goal or question, supported by evidence garnered from one or more of the various instruments used in this study: semi-structured interviews, pre- and post-model surveys, informal interviews, naturalistic observation, video recordings, audio recordings and a research journal. For ease of reference, the three goals and four guiding research questions (previously stated in Chapter 1) are restated below:

5.1 Research Goals

1. To evaluate an instructional model for a collaborative e-mail exchange for ESL secondary students, based on exemplary ESL methodologies and pedagogical techniques
2. To examine the feelings, attitudes, opinions and beliefs of secondary school ESL students towards a collaborative e-mail exchange for the purpose of learning English
3. To examine the logistics of implementing a C-MC exchange at a "national curriculum" school

5.2 Guiding Research Questions

1. Do student attitudes about learning English with computers change as a result of this project?

2. Do computer background and keyboarding skills have an effect on attitude, interest or motivation towards collaborative e-mail projects for learning English?
3. Do students perceive that this project has helped them learn the four language skills:
   (a) Writing
   (b) Reading
   (c) Speaking
   (d) Listening
4. Do students believe that collaborative, cooperative learning helps them learn English?

5.3 Demographic Background of 4E Students

Before examining data related to the research goals and questions above, I first provide some relevant demographic information about 4E students, collected from the pre-model survey:

Demographic Information

Table 5.1

	n	mean
Age	45	15.6
Number of years at BSTC	45	5.04
Number of years studying English	45	9.67
Number of years private tuition	06	1.00
Number of years owned computer at home	41	2.70
Speaks English outside BSTC:		
– Yes	19	
– No	26	
Time speaking English outside BSTC:		
– 15 minutes or less per day	11	
– 30 minutes to one hour per day	8	
– More than one hour per day	0	
Has a computer at home:		
– Yes	41	
– No	04	

Time spent on computer at home:	
– 0-2 hours per week	12
– 3-5 hours per week	8
– 6-10 hours per week	12
– 11-15 hours per week	3
– 15-20 hours per week	3
– Unclear response	3
– No computer at home	4
Computer functions students can use:	
– Games	38
– CD-ROMS	31
– Installing programs	23
– Word processing	22
– The Internet	18
– Programming	17
– E-Mail	13
– Data bases	04
Have sent E-mail to other countries:	
– Yes	11
– No	34
Language(s) used in e-mail correspondence:	
– English	10
– Both English and Chinese	1
Are computers difficult to use?:	
– Yes	18
– No	27
Difficulties reported in using computers:	
– I cannot operate them without help from others	9
– I cannot type well	10
– It takes me a long time to finish assignments on the computer	7
– I do not have proper training in using a computer	14
– I cannot send e-mail	1

The following section will address three major research goals and four research questions that guided this study.

5.4 RESEARCH GOAL 1:

Evaluating the Instructional Model

The following evaluation assesses my instructional model, by examining if it accomplished what it set out to do, as stated below:

Instructional Model Goals

Category A: Use of new teaching paradigms involving

- a bottom-up model
- teacher as coach model
- student-centered learning
- students responsible for own learning

Category B: Use of exemplary methods and approaches such as

- peer tutoring
- cooperative learning
- peer critiquing
- project-based learning
- process writing

Category C: Developing skills necessary for new paradigms and approaches

- meeting group goals
- remaining on task
- construction of personal knowledge
- sharing and interacting positively with others
- learning as a process
- honing social interaction behaviors

All of the above-mentioned skills, methods and paradigms were employed in this exchange, although in the interest of space, I have chosen to highlight three examples from each category above, as observed by audio recorder, video recorder or naturalistic observation (journal notes).

As previously mentioned in Chapter 4, the noise level in the classroom often precluded being able to completely hear all parts of all conversations when I video taped or audio taped students. Thought I was not aware of it at the time, this may have had an impact on my evidence selection. Therefore, I have tried to rely on triangulation, whenever possible, to substantiate conclusions based on recorded information.

I must also remind the reader that several students were acutely aware of being audio recorded or video recorded, and that their class work and performance were obviously affected. It was therefore difficult to tell if these students did not meet class goals because of the recorder's presence, or for additional, unknown reasons. Therefore, I reiterate that audio taped and video taped evidence cannot confirm the success or failure of our learning model for all students; at best, it can highlight "instances" of success or failure amongst a much larger field of unknown results.

5.4.1 Category A: New Teaching Paradigms—"Bottom-Up" Model

Throughout this project, students were allowed to select study topics based on interest or expertise, rather than have the teacher mandate them in a "top-down" fashion. On March 15th, 4E students were video taped while negotiating the overriding theme for their e-mail project. The following activities were recorded, pointing to the successful attainment of "bottom-up" decision making:

Video Extract 1:

(a) Individual groups "brainstormed" ideas for their project

(b) Each group generated a list of topics, later selecting their "top choice"

(c) "Top choices" from all groups were read out loud

(d) The whole class voted and narrowed the list down to a "top five" list (ghosts, entertainment, gambling, romance and transportation)

(e) Discussion ensued about the "Top Five" list (this list would later be e-mailed to Iowa partners, who in turn, would negotiate with 4E to arrive at one suitable topic)

As per the description above, this video recording reveals students who are self-directed, energetic and engaged in lively discussion—sometimes using their hands in animated gesture to explain ideas. Individual words and phrases can be discerned such as "MTR (Mass Transit Railway)," "special," "so boring," "can we discuss. . .", "chose a topic first" and "well-done!," indicating that groups were working on task. Towards the end of the activity, one student is heard saying, "We'll vote again, OK? Who wants the first one?" Hands are raised for a vote and a decision is made. At the end of the activity, this researcher praises

two groups as being "very democratic" after originating five different ideas, voting, taking the top two ideas and re-voting to arrive at their "top choice."

A second example of "bottom-up" learning occurred March 8th, as students worked in cooperative groups to select their own topic for "Slice of Hong Kong" Cloze paragraphs. Although Cloze paragraphs were required by the syllabus, students determined the topics, themselves. The following activities and behavior were evidenced in a video recording:

Video Extract 2:

(a) Each group "brainstormed" on topics in small groups for a period of 5 minutes

(b) Each student offered at least two suggestions on paper, as requested, and seemed interested and engaged in assignment

(c) Students collectively selected their favorite choice, and the "reporter" for each group explained the choice to the whole class

(d) Students began co-writing Cloze paragraph on the topic they had chosen

Notes from my research journal on March 8th reveal additional information on this "bottom-up" process:

Journal Excerpt 1:

- "I hear good ideas coming from most groups; some loud, others quiet."
- "Good choices, CNY (Chinese New Year traditions), Ching Ma Bridge, HK Architecture, "Yum Cha" (dimsum brunch), HK Airport, Ocean Park, etc."
- "Some (groups) have 10 or more solid ideas."
- "(Students) seemed anxious to explain the way things are in Hong Kong. One group of girls wrote about school life. They asked for ideas of things that might differ in America; I suggested uniforms, toilets and homework. They became very animated after I mentioned toilets—went to work right away. I noticed they did not use my idea on homework—which is fine."
- "Students take part (in whole-class discussion to explore and develop their choices) without much prompting, have good ideas to share."

As per the data above, students appear able to work in small group and whole-class contexts to make bottom-up decisions about their language learning task.

5.4.2 Category A: New Teaching Paradigms—Teacher as Coach

In the following example audio taped on April 12th, students peer-critique imaginative essays and rate their partner's work as either "excellent," "good," "average" or "needs work." The teacher plays the role of a coach or facilitator, who helps cooperative groups get started, clarifies instructions and suggests learning methods. Students are then left on their own to proceed with their goals:

Audio recorded Extract 1:

(Teacher helps get group started)

T: So, Arthur, you're correcting his, right?

B1: No, I'm correcting John's.

T: Can you two change chairs then so you can talk better to John? Because its very hard talking across the table.

B1: Oh, yes. No problem.

T: OK.

(Teacher leaves and group continues on their own)

B1: So, I talk to you, John. I think your essay is excellent, excellent, excellent, excellent.

B2: Oh, I think you are mistaken!

B1: First, you have almost no (?).

B2: Um?

B1: Yeah. Just some things I didn't understand. But your passage had no title, so I give it an "average," so I didn't give it "excellent."

B2: The title is (?)

B1: The opening paragraph is very clear. You say (?) very clear, very clear...

(Later on in the same conversation)

B1: You make no mistakes. Just a few and the (?) is good.

B2: What?

B1: Grammar.

B2: (?)

B2: I am also no heading.

B1: Liking. How can you say "liking." Many visitors visit Hong Kong, liking travel by train."

B2: Oh, I mean (?). I typed the wrong one. Like. L-I-K-E, Like.

Although there appears to be a discrepancy between B1's initial assessment that everything is "excellent" (he points out several concrete mistakes later on), I think the underlying fact is that students are learning to rely on and assist each other, rather than the teacher doing all assessment. Although "student language" may not be as precise in pointing out mistakes as "teacher language," the basic intent (that there *were* some mistakes) is eventually communicated. In addition, the "trial and error" way students negotiate their way through incoherence is essential to language learning.

I offer several additional explanations for the discrepancy between B1's initial "excellent" rating, and the actual situation: First, it is part of traditional Chinese culture to praise first before critiquing. This is considered a polite form of etiquette and the "diplomatic" way of pointing out errors—one often sees this technique used at international meetings and negotiations, and secondly, since ESL students have inherent difficulty with English expression, it often takes time (and several tries) before they "get out" their statements in the way they were intended.

Another example of the "teacher as coach" role was noted in my research journal on March 8th, as students wrote Cloze paragraphs in cooperative learning groups:

> ***Journal Excerpt 2:***
>
> "(Ms. Chan) and I circulate through room. We try to spend 2-3 minutes with each group, giving basic directions—enough to allow students to move on."
>
> "Some students look for us, but we are at another side of room, they learn to rely on their own group members, other quieter groups wait until we approach. When we do, we encourage them not to stop and wait for us, to ask each other the question to see if students can answer it first."
>
> "One group of girls (has) questions about Chinese food names (for dimsum) in English. There is no English equivalent. . . We encourage them to use English words to describe (small, round dumplings filled with steamed pork, etc.) They ask us back several times on this point—we ask them to work on their own for while, we will return 10 minutes later to check. We do, and they have progressed, although still require us to look over. Some groups like this are more attached to traditional teacher role. We will work on this as time goes on."
>
> "Other groups more self directed. 'Airport' and 'Architecture' group takes off on own, ask very few questions from us. We monitor to make sure

they are "on task" and leave for next group when satisfied (that) they are (working on task)."

5.4.3 Category A: New Teaching Paradigms—Student-Centered Learning

Students carry out complex large- and small-group activities such as self-directed discussion, negotiation and peer tutoring largely on their own, while teachers circulate around the room to monitor work and assist those asking for help. In the following example recorded on March 1st, four students are audio taped during a student-centered, self-directed assignment—selecting a name for their cooperative learning group:

Audio recorded Extract 2:

= I think the "King of the King" is too long.
= Too long? (?)
= Why?
= "King of the King?"
= "King of the King!"
= Yeah.
= "King of the King of the King of the King!"
= Good.
= It's too long.
= Yes. We can compose (?).
= We can...
= "Father of the King," "Brother of the King," "Mother of the King"... (laughs) (?) "Brother of the King?"
= Um
= Um
= Um, which title name do you want to get?

Other instances of student-centered learning, as noted in my research journal, involve students initiating requests to meet specific learning needs. For example, on March 25th, several girls ask if I can offer a lunchtime workshop on American slang used in their partners' introductory e-mail letters—words such as "prom," "drill team," "going steady" and "bumper stickers," among others. This idea is agreed upon, and carried out on March 1st. Another instance, noted in my

journal on March 24th, involves one cooperative learning group asking to produce a short video focusing on the 4E students and the Kwai Chung (BSTC) environment, to send to Green River partners. Their idea is accepted and I agreed to give these students extra credit for their work.

5.4.4 Category B: Exemplary Methods—Peer Tutoring

Students are audio taped in the computer lab on March 29th while engaged in "one-on-one" peer tutoring. This assignment requires the first student to read his/her partner's handwritten text out loud, make comments on grammar, spelling and other mistakes, and give instructions for word processing. The second student is then required to type out the information, ask questions, double-check facts and practice word-processing. The audio tape focuses on two students who follow the peer tutoring model and appear to be successfully engaged in the assignment:

Audio recorded Extract 3:

B1: (reading from script) "Don't leave me alone!"

B2: Capital?

B1: Capital letter, yes.

B1: "Don't leave me alone. I really love you."

B2: How to spell really?

B1: R-E-A-L-L-Y

B2: Oh, you can (?) put a space. No, no, no...here.

B1: Oh, oh...here. Here's no space.

B2: Oh, I see.

B1: "Yes. I really love you." And (?) space. Space. "I can't live without you."

Another reference to this same lesson in my research journal dated March 29th, concludes:

Journal Excerpt 3:

"Today there is real peer-tutoring going on. First at (the) teacher terminal students "teach" others how to send their own e-mail. They give instructions in English—very well done! Others peer tutor to (show how to) save/open/close documents, etc."

"Many students come with essays already saved on disk. (These documents are) easy to send in 3 – 4 minutes. Then, these students work with others who need help typing, saving, spelling, using computers, etc. as peer tutors. I ask those who finish early to read essays out loud to other students so they can type easier. Very effective. Even though I'm losing my voice (from the flu), the lesson goes smoothly."

5.4.5 Category B: Exemplary Methods—Cooperative Learning

On March 15, 4E students are engaged in a Roundrobbin (cooperative group) activity, during which time they are given several minutes to compile a list of items to be placed in a "culture box" for posting to Iowa partners. Each student is required to write down one suggestion on paper before passing the paper clockwise to another group member. A video recording of this activity reveals that students are focused and on-task during the entire exercise. The following behavior was recorded:

Video Extract 3:

(a) Individuals writing suggestions on their group paper

(b) circulating papers in a clockwise fashion

(c) active and lively discussion

(d) gesturing with hands to explain choices

(e) students focused on group work

(f) concrete suggestions on what to include in the culture box, such as "Lai See" (lucky New Year money) and Hong Kong money

(g) individual groups consulting with teachers

In general, my journal entries on 4E's reaction to cooperative learning are positive (during the March 15th activity above, as well as on other days)—except for the aspect of arranging chairs and tables. This is troublesome for several reasons: the classroom is too cramped to move furniture easily, the chairs and tables are heavy, and students are given no "passing period" between classes to do so. Excerpts from my journal indicate:

Journal Excerpt 4:

(March 1, 1999) "light grumbling from having to physically get up and move tables, but actually, (the) task was met by enthusiasm once students stood up and arranged (desks) . . . after the lesson started, students were very enthusiastic about doing group work. (They) seemed relieved to break (the) monotony. I am not worried about the grumbling."

(March 8, 1999—at lunchtime) "(Ms. Chan) commented that she thought the students enjoyed (cooperative) group work to lecture (and) encouraged me to continue."

5.4.6 Category B: Exemplary Methods—Peer Critiques

On April 12th, 4E students are audio recorded during their first attempt at peer critiques. Students are given ten minutes to read one classmate's essay, another ten minutes to grade it according to a shared rubric, and a final five minutes for oral feedback.

During essay reading, most of the students recorded seem able to focus on their task, read quietly and concentrate, although several continue to talk—especially four students in front of the camera. After being warned to quiet down, most do, although distinct voices can still be heard in the background. During comment writing time, most students within the camera's view are working on task. They actively write down comments, consult dictionaries and seem engaged in the task. At this point, however, a small but bothersome minority are still talking out loud, although the camera picks up words like "average" and "do better," indicating that they are probably working on-task.

Video recordings of the above mentioned activity, show peer-critiquing as a moderately successful activity, although notes from my research journal on April 12th, highlight several problems that could not be discerned from the video:

Journal Excerpt 5:

- Some students read their partners' essays much quicker than the time required in order to do a thorough analysis of the work
- Some students gave nonspecific comments such as "good job here" rather than citing examples
- Some students did not give comments at all (as required), and simply graded each category on a scale ranging from "A" – "D."
- Few grammatical mistakes were caught by peers, indicating that students may not have had the knowledge to pick them out
- Several students continued reading during the "oral critique" time, because they had not yet finished.
- I sense a "passive resistance" during quiet time, indicating that students want to share and question (orally)

In light of these problems, one must keep in mind that this was a "first attempt" at peer critiquing, and that the problems noted occurred with only some students. To be fair, my research journal (dated March 12th) informs that "many students followed directions very well," "tried to evaluate their partner's work as best as they could" and gave "good oral feedback." This journal entry additionally highlights several benefits that students may have gained from the activity:

Journal Excerpt 6:

- Learning how to focus on rubric specifics
- Understanding the rules by which they, themselves would be graded on
- Learning that writing drafts are not final products, and that writing is a recursive, changing process
- Allowing students to examine other classmates' work to view different approaches and organizational styles on the same subject

On April 12th, an audio recording is made of three groups engaged in peer critiquing. Two of these groups are obviously affected by the presence of the recording device, and have a difficult time focusing on the assignment. The task of peer critiquing is unsuccessful, although it is difficult to say if this is due to the presence of the recording, the nature of the assignment, or both. Here is an excerpt from one of the "unsuccessful" groups:

Audio recorded Extract 4:

T: So you are grading her, or you are grading him? Whose paper are you grading? You've got May. Ah, alright. Where's May?... So first of all, you tell May how she can make her paper better and then May will tell you how you can do a better job, OK? Don't be nervous—just say the truth because you really want to help her get a better grade, right?

B: Um, um, we better start...uh... (?) May? (?) Um, your (?) is not suitable for the (?).

G: (?)

B: What? (?) The topic? (?) Maybe (?).

G: The topic is music.

B: Is your essay talk about...music...I forget (?) but maybe high words. I don't understand it.

G: (laugh, indicating embarrassment) Oh my God...

B: (?) (laughs, also embarrassed)

B: So, that's all.

G: That's all?

B: Yes. I recommend is this.

B: How about the opening paragraph...opening paragraph. It's quite good. Quite good.

G: What's quite good? (laughs, uncomfortable)

B: And (laughs) (?) OK, that's all.

(students turn off recorder on their own—are very uncomfortable with it on; then turn on again)

B: And use many high-level words. That's good. Cuz...grammar is also very good.

G: Why? (laughs, still cannot control herself)

B: But your conclusion...your conclusion is quite long. (laughs)

G: (laughs, says something in Cantonese)

B: (laughs) you use your (?)

T: OK, I'll turn this on again later, I'll turn it off for now, OK?

(Teacher responds to obvious difficulty caused by the tape recorder on student's desks)

In this example, the male student (B) was ultimately unable to offer the female student (G) specific information for essay improvement, and both were keenly embarrassed by the recording. However, after some consideration, I was able to look at this audio taped sample in a more generous light: this was only a second attempt at peer critiquing—a difficult and complex task relying on high-level skills like evaluation, analysis, recommendation, negotiation and use of task-specific vocabulary. I was not too disappointed when viewing these students as novices "en-route" to becoming experienced.

5.4.7 Category C: Skills for New Paradigms and Approaches—Meeting Group Goals

Students' first encounter with fulfilling individual and group roles, is a largely positive experience, as recorded in my research journal on February 25th:

Journal Excerpt 7:

"Very good lesson. Students, in general, followed instructions...some very organized groups followed (roles) to a "T," others needed encouragement. As Mr. Wu (the school principal) said, (BSTC students are) good at following roles. On (the) second exercise (a Roundrobbin exercise), many groups reverted back to individual work, (and) had to be reminded to share

and follow roles. After (the) reminder, no problem. All in all, a "9+" (on scale of 10 for following directions).

During another cooperative group exercise on March 1st, group "K" is audio taped (in the 4E classroom) negotiating a group name from a list of previously-discussed titles. Students have several minutes to arrive at consensus, during which time they are instructed to employ previously-learned phrases to demonstrate the following skills: initiating discussion, giving personal opinions, politely showing agreement or disagreement, requesting feedback from other group members, and making joint decisions:

Audio recorded Extract 5:

Recorded Dialogue	**Skills Demonstrated**
= Let's get started	initiating discussion
= (all agree at simultaneously)	
= Let me see. I suppose, well, that's OK. I suppose "Power" is the best of names. Do you think so?	giving personal opinion
= I think "King of the Power" is better.	politely showing disagreement
= What's the reason?	
= Have no reason. Just it sounds good. It sounds good.	giving personal opinion
= I totally disagree	using textbook phrase
= What? Agree or disagree?	
(Later in the same conversation . . .)	
= I think. . . (?) I think the King. . .I think the word "King" may be more better.	giving personal opinion
= Yes! (two voices indicating agreement)	
= I agree with you.	politely showing agreement
= Do you agree?	requesting feedback from group
= We totally agree with you.	
= O.K./Thank you. (two voices together)	
(At the end of the same conversation . . .)	
= Let's have a vote.	
= O.K.	
= (lots of simultaneous discussion while hands are raised)	

= O.K. So how about decide. . .

= The name of our group is called "Kings."

= "Kings."

= By the result we have a decision. group decision

During this highly successful activity, group "K" students demonstrated use of all of required skills in an organized and democratic fashion, while aptly meeting group goals.

5.4.8 Category C: Skills for New Paradigms and Approaches—Remaining on Task

On March 29th, students are audio taped engaging in peer critiques of their "imaginative essays." Although they begin working on task, one speaker gets sidetracked with a silly remark. Nevertheless, the second speaker is able to refocus the conversation and bring the conversation back to task.

Audio recorded Extract 6:

B1: The opening paragraph is very clear. You say (?) very clear, very clear.

B2: (?)

B1: Oh. In my essay, my name is Calvin. But my real name is Arthur. Titanic is a good name. I want to title interesting, so I use the word Titanic.

B1: (?) You want to do many things in your life. Want to have a concert. Can you sing a song to me? (This is asked in a slightly silly manner, but there is no laughing)

B2: Oh, OK.

B1: Can you sing a song to me? (This time the question is asked in a very silly tone

and there is a good deal of laughter)

B2: How about organization? (Student refocuses on task in a more serious voice)

B1: Oh, everything goes smoothly. Well organization.

B2: (?)

B1: Not many things wrong, so I give your grammar command is "good."

B1: And the conclusion is—you can make it longer. It will be better. For example, you may say, "This make me powerful with energy. Saturday I found no one sit on the chair. All the people (?) Only I

have, how to say (?) and no one listens to you. You are very uncomfortable and upset."

J: Oh.

Another example of remaining on task at the urging of fellow classmates, is recorded in my research journal on March 8th. It transpires as groups negotiate ideas for a Cloze paragraph:

Journal Excerpt 8:

"Group 'K,' the 'class clowns' have silly idea (for their Cloze exercise). How we get 'nupengyao' or girlfriends. They get laughs from class, (and) ask if I know what 'nupengyao' means, then another group yells for them to 'be serious!' (They) receive clicks of disapproval from several other students. Then, one member (of group 'K') agrees 'OK, OK, give us another minute.' I agree to come back to their (table and let them explain their) choice a minute later—I see they have several other (genuine) options written down on their paper. They quickly agree to the CNY (Chinese New Year) one. This group is actually quite funny. I don't particularly mind the short disturbance. They do like getting their attention, but then, have good attitude about getting back 'in line.'"

5.4.9 Category C: Skills for New Paradigms and Approaches—Constructing Personal Knowledge

In this discussion audio taped on March 1st, 1999, students are negotiating a name for their cooperative learning group. Students engage in critical thinking and reasoning by discussing the title "King of Kings," while questioning the values and nuances that the name evokes:

Audio recorded Extract 7:

= Um, which title name do you want to get?

= The "King of Kings."

= "King of Kings?"/"King of Kings?" (together)

= Yes/No (together)

= Although it is quite special, but, you know, "King of the King" is. . . uh, how to say? (says a Cantonese word)

= Um. . .it's no good. So long. So difficult like this.

= Yes, yes.

= How about (many voices overlapping)

= What does it imply for?

= What imply?
= Imply?
= Imply?
= I don't know.
= Imply?
= Imply.
= Oh! (with understanding of the meaning of "imply")
= (Clarification given in Cantonese)
= Implies. . .give me some power and (?).
= Money. Important. Money.
= No! (in disagreement with interpretation above)
= (several voices speak at once)
= He can make the (?) as money, but the King has money and power.
= No!/He is a God! (two voices together)
= But it may be too...too...too...
= Powerful!

As per the data above, students successfully demonstrate ability to construct personal knowledge on their own, during cooperative group discussions.

The examples highlighted in this chapter, taken from video recordings, audio recordings and natural observation, help reflect how various objectives of this instructional model were met, to a greater or lesser extent, during the course of daily classroom activity.

5.5 RESEARCH GOAL 2: Examining Student Feelings, Attitude, Opinion and Beliefs

This section examines data on the second research goal of the study: analyzing student feelings, attitudes, opinions and beliefs related to the BSTC-Green River exchange and instructional model, as gathered from pre- and post-model surveys and personal interviews.

The pre-model survey was administered one week before the commencement of our exchange, the post-model survey was given the last week of the exchange, and the personal interview was conducted during the last four

weeks of the exchange. I have been selective in my inclusion of data, since there were often more than 20 examples related to individual research questions, and not enough room to discuss them all. I have thus, done my best to offer a balanced selection of examples from a large pool of data, including both favorable and unfavorable findings from both survey analysis and interview analysis.

The following table compares mean scores from Likert questions on both pre- and post-model surveys with the same wording. These scores are analyzed in the following pages, in terms of the four research questions that guided this study:

Comparative Pre- and Post-Model Survey Mean Scores

Table 5.2

Questions (sample size: 45 students)	Pre-mean	Post-mean	t	p
I can write an English composition with ease	2.96	3.18	1.81	0.077
I can speak English with ease	3.02	3.16	1.03	0.309
I can read English with ease	3.18	3.29	0.93	0.359
I can understand spoken English with ease	3.11	3.32	1.39	0.173
I would rather spend time on my other courses rather than English	2.87	2.96	0.53	0.599
I am nervous when I have to write an English Composition	2.64	2.69	0.36	0.719
My classmates in Hong Kong can help me improve my English writing by discussing my compositions in groups	3.02	3.16	0.61	0.546
I am confident about my English ability in general, including reading, writing, speaking and listening	2.71	3.00	2.23	0.031*
I am not interested in using computers in my English class	1.98	2.33	1.89	0.066
I am embarrassed to send letters to English-speaking students	2.40	2.09	1.82	0.075
I think my English writing will improve/has improved	3.98	3.20	4.63	0.000**

I think my English speaking will improve/has improved	3.27	3.42	0.78	0.437
I think my English reading will improve/has improved	3.89	2.98	5.16	0.000***
I think my English listening will improve/has improved	3.18	3.36	0.88	0.383

*p < 0.05, **p < 0.01, ***p < 0.001

5.6 Research Question 1: What are <u>student perceptions</u>, beliefs and attitudes towards an exemplary collaborative e-mail project in the secondary ESL classroom, used for the purpose of learning English?

5.6.1 Example 1: Student Perceptions

Personal Interview Question 2A: What do you think of this project?

In this "free-association" question, students responded unguided, by offering as many or few responses as they desired. For convenience, I have separated responses into five categories: "Adjectives," "Likes," "Dislikes," "Strengths" and "Weaknesses."

<u>What Do You Think of this Project?</u>

Table 5.3

A. Adjectives	Number	B. Likes	Number
Interesting/interested	15	E-mail	4
Good/nice	10	Using computers	3
Boring	3	Group discussion	3
Enjoyable, liked	4	Publishing magazine/project	2
Exciting	4	Cooperative learning	1
Fresh/new	4		
Excellent/wonderful/great	3	C. Dislikes	Number
Useful	2	Didn't like e-mail	3
Encouraging	1	Didn't like group discussions	3
Meaningful	1	Didn't like computer lab	1

D. Strengths	Number	E. Weaknesses	Number
Improved English	16	Not long enough	5
Language modeled by native speaker	8	Not enough e-mail from partner	4
Contact with foreigners	6	Not enough exam-related skills	3
Improved speaking	6	Not enough grammar practice	3
Improved writing	5	Too time consuming	2
Made friends	3	A lot of work	1
Improved grammar	3	Partner's vocabulary too high	1

Improved communication	2	Students lack computer skills	1
Improved listening	2	Chinese used in class	1
Improved reading	2		
Learned a lot/good learning experience	2		
Improved confidence	1		
Improved computer skills	1		
Improved typing skills	1		
Learned from others	1		
Learning extended at home	1		

As indicated above, the majority of students appeared to like this project, and described it with 45 positive adjectives, while only 3 negative adjectives were used. Of positive adjectives, the most common were "interesting/interested" and "good," as indicated below (personal interview question 2A):

> (Beth) ". . .I think everyone who received letters will feel excited so she or he will interested in this."
>
> (Arthur): "It is a good project. We had a chance to improve our reading and also listening and we have another chance to improve our grammar. During this activity I always talk to others in English. Speaking in English can help me to achieve more."

Howard offered a more poetic response:

> "It's a golden chance to communicate with the foreign people."

Students additionally believed (personal interview question 2A) that the project strengths (65 listed) greatly outnumbered its weaknesses (16 listed). The most common "weakness" cited was that the project was not long enough—in reality, a positive response indicating that students wanted more of the project and for a longer period of time.

The most significant "weakness" reported was that students did not receive "enough letters/e-mail from their Iowa partners" (4 students). This complaint (also indicated by 18 students in Table 5.8, p. 29) was true on several levels. First, many BSTC students did not receive their keypal letters together with the bulk of Iowa responses. Instead, they trickled in days or weeks late, causing our class to postpone computer lab activities that required a "whole-class" response. In addition, the Iowa class as a whole, regularly missed mutually-established deadlines, resulting in a decreased number of formal exchanges during the three month period (Mr. Ziller and I had originally

envisioned eight to ten formal exchanges, but ended up with only five). Several 4E students comment on this problem (personal interview question 2A):

> (Kingston): "It (the project) is very good and I can make a lot of friends with Iowa students, but they seldom send a letter to me."
>
> **. . .and another concurs:**
>
> (Keith): ". . .I think I should remind you. I think the time it (the exchange) should to do many times. If just do one or two times (exchanges) it is not so useful.
>
> (Teacher): "How many times is best?"
>
> (Keith): "We can have five or six times (exchanges) per month is good."

5.6.2 Example 2: Student Perceptions

Personal Interview Question 2B: I'm going to show you a list of words describing this project. Please choose one or more words that best describe your opinions and feelings about the project.

The list given to students (Table 5.4) contained sixteen choices: seven negative, six positive, two unrelated (dangerous and contagious) for the purpose of double-checking reliability, and a choice of "other" for students wishing to add their own words.

Words Used to Describe Opinions and Feelings About Project

Table 5.4

Adjectives	n
A good learning experience	19
Useful	17
Enjoyable	16
Helpful	16
Exciting	13
Not effective	6
Fun	4
Boring	3
Not useful	3
A waste of time	1
Contagious	1
Dangerous	1

Tiring	1
Waste of time	1
No interest in it	1
Other: (interesting)	1

Students described this project in largely favorable terms, registering 86 positive responses in contrast to 17 negative ones. Of the favorable responses (personal interview question 2B), students said:

> (Kevin): "Interesting. Very nice. I'm happy in the project and it give me a chance to practice our English. We seldom practice our English every day."
>
> **. . .and. . .**
>
> (Taylor): "The e-mail. . . is very good for expressing the imaginative essay. . .they write in a very good way. I find this high level. They use the idioms and high-level adjectives. I can learn much things about that."

Of negative responses, the most common complaint was "not effective." Karen offers one reason why:

> (Karen): "We have not enough time to finish the books." (textbooks)
>
> **. . .and Beth another:**
>
> "I find it too difficult to have a specific topic and discuss in groups because other students not be active and always don't want to speak. When (you) tell us to give us response, I'm so nervous. . ."

It must be noted that two students (Table 5.4) selected words that were unrelated to the study—"contagious" and "dangerous,"—doing so because of differing interpretations than those I had intended. The student selecting "contagious," for example, did so because she thought the project was positive and should be "spread" to other students, while the one selecting "dangerous" said it might affect his exam score in a detrimental or "dangerous" way. Therefore, the students' rationale for using unrelated words still upheld the general reliability of their answers.

5.6.3 Example 3: Student Perceptions

Personal Interview Questions 5 and 6: What were the most fun/least fun activities during this project?

Most Fun/Least Fun Activities

Table 5.5

Activity	Most Fun		Least Fun	
	n	ro	n	ro
Speaking practice in small groups	15	1	1	13
Computer practice	8	2	7	2
Cooperative learning in small groups	7	3=	1	14
Making Cloze exercises	7	3=	3	4=
"Hello" Letters	5	5	3	4=
Answering partners' Cloze exercises	4	6=	6	3
Writing imaginative essays	4	6=	8	1
Personal letters to partner	3	8	3	4=
E-mail practice	2	9=	2	11
Small group comments on essays	2	9=	2	12
Other: sharing culture box	2	11=	—	—
Reading imaginative essays from Iowa	1	12	3	4=
Getting comments from Iowa partner about your essay	0	13=	3	4=
Writing comments to your partner about their essay	0	13=	2	10
Other: Everything is fun			2	9

As per the data above, students considered speaking in small groups (15) and computer practice (8) to be the "most fun" activities. In general, six major themes emerged as students described why certain activities were "fun" (personal interview question 5):

- freedom to write or imagine what one wants to
- happiness/fun
- the model was "fresh" or "new"
- sharing or learning with others
- more communication/ more speaking opportunities
- making contact with friends via computers/e-mail

A few examples of these themes (personal interview questions 5) include:

(Eliza, about the imaginative essay): ". . .the topic is very wide. I can write anything I like."

(Howard, about cooperative learning): "I think cooperative learning is so good. It is very fresh. I can speak freely."

(Lisa, about small group discussion): "I can speak more English than in the class, and also my group's there are funny man in my group. I and my classmates often jokes to him."

The activity most frequently mentioned as being "least fun" (8) was "writing imaginative essays," the most common reasons being that they took "too much time" and were "difficult to imagine." This comes in contrast to data showing that a third of all students (15) considered imaginative essay writing to be "most helpful" for learning English (personal interview question 3, pg. 41) and seventeen students believed writing imaginative essays were "useful to repeat again" (Table 5.7, p. 28). Interestingly, computer practice was second on both lists ("least fun" and "most fun"), revealing a definite split of opinion on the issue.

In general, six themes emerged as reasons why students did not find particular activities "fun" (personal interview question 6):

- Lacking skills for the activity
- Too much prior experience in the activity
- Too difficult
- Too easy
- It did not teach English to the extent that other activities did
- Foreign partners' comments were discouraging

5.6.4 Example 4: Student Perceptions

Personal Interview Question 19: Would you like to do another project like this one in the future or not?, and Personal Interview Question 19A: What parts are useful/not useful to repeat again?

Would You Like to do Another Project?

Table 5.6

Answer	n
Yes	37
No	3
A little bit	2

Maybe	2
Student was not asked	1

Useful/Not Useful to Repeat Again

Table 5.7

	Useful to Repeat		Not Useful to Repeat	
	n	ro	n	ro
Speaking in small groups	24	1	3	9=
Cooperative learning in small groups	20	2	—	13
Writing imaginative essays	17	3	3	9=
Reading imaginative essays from Iowa	16	4=	1	12=
Getting comments from Iowa partner	16	4=	2	10
E-mail practice	14	6	7	3
Making Cloze exercises	12	7	8	2
Hello letter	10	8	4	6=
Writing comments to Iowa	9	9=	5	5
Computer	9	9=	10	1
Personal letter	7	11=	2	8=
Small group comments on essays	7	11=	1	11=
Answering Cloze exercises	4	13	4	6=
All parts are useful	—	—	6	4

Data from Tables 5.6 and 5.7 above, reveal that students believed most aspects of this model were useful and should be repeated again, particularly "speaking in small groups," (24 responses) "cooperative learning," (20 responses) "writing and reading imaginative essays," (17 responses) and "getting comments from Iowa partners" (16 responses). In total, 165 responses invited repetition of activities, while only 56 responses declined repetition of activities.

The most frequently cited items under "not to repeat" (personal interview question 19A) were computer practice (10) and Cloze exercises (8). "Computer practice" is an understandable answer, since it involved learning technical rather than English language skills, and was not part of the English language curriculum. In addition, approximately half of 4E's students were already enrolled

in a Computer Studies class where they received ample computer practice. As for the Cloze exercise, it appears that a portion of students simply did not enjoy the work, for reasons that were not revealed.

5.6.5 Example 5: Student Perceptions

Personal Interview Question 7: Would you change any part of this project in order to make it a better project?

A desire for four types of change emerged from the data: "general changes," "changes to classroom activities," "changes to computer lab activities" and "changes with Iowa partners."

Changes to Project

Table 5.8

A. General Changes	Number
Plan outdoor/extracurricular activities	5
Longer time period for project	2
No changes to project	1

B. Changes to Classroom Activities	Number
No changes to classroom activities	14
Play games	4
More speaking practice	3
All writing should be done in groups	3
More listening practice	2
Students should speak up more	2
More grammar practice	2
Sit according to seating chart	1
More essay practice	1
More pronunciation practice	1
More time on textbook discussion	1
Practice lecturing classmates	1
Teacher call on students to respond	1

C. Changes to Computer Lab Activities	Number
No changes to computer lab activities	14
Do project after school or from home	7
All/more computers joined to Internet	6
More time/lessons for sending e-mail	6
Larger computer lab/more computers	4
Using the Internet	2
Fun use of computers, such as drawing pictures	1
Greater teacher/student ratio in computer room	1
Have teacher send e-mail for us	1
Use different technologies like fax and scanner	1

D. Changes with Iowa Partners	Number
Exchange more letters	18
More equal student/student ratio	5
More types of communication (photos, pictures, etc)	5
No change needed	5

Foreign student exchange	3
Letters should say more about partners' lives	3
Communicate with other cities	2
Send e-mail from home	2
Don't exchange imaginative essays	1
Audio conferencing on the computer	1

According to the data above in Table 5.8, students appear highly content with the project as presented, and a majority of responses indicate there was no need to change activities in either the classroom (14 responses) or computer lab (14 responses). However, eighteen students *did* mention "changes with Iowa partners," revealing a certain amount of discontent with their foreign correspondents. For example, one student laments (personal interview question 7):

> (Wanda): "Maybe. . .the our partners (should) say more in their letters. My partner only. . . did not send very much."

Another guesses that lack of communication may have been due to the harsh Iowa winter:

> (Taylor): "I think they can send e-mail at their home because sometimes the weather is unstable so we can get the e-mail if they send from home."

Five students specified exactly how often they thought communication should be sent from Iowa, their respective answers being: every day, twice a week, one to two times a week, three to four more communications, and four or more communications.

Most suggestions for "computer lab changes" were beyond this researcher's control, including a desire to send letters from home to save time (7), joining more computers to the Internet (6), more time for sending e-mail (6) and using a larger computer lab with more computers (4). The first complaint, however, is important, since several students associated our project with misspent time. Cara, for example reports (personal interview question 7):

> (Cara): "Type the letter in school is quite waste of time during the lesson."
> (Teacher): When would you suggest doing it?"
> (Cara): "after school."

One likely reason for Cara's response is that she may have viewed time spent on e-mail messages as conflicting with exam-specific study time. In addition, she was concurrently enrolled in a Computer Studies course, in which she already used computers a good number of hours per week.

5.7 Research Question 1:

Do student attitudes about learning English with computers change as a result of this project?

5.7.1 Example 1: English with Computers

Personal Interview Questions 15 and 16: How did you feel about using computers at the beginning of our project in January/at the end of our project in May?

Personal interview questions 15 and 16 below, were asked during the last month of the project, requiring students to compare their present feelings about using computers in English class, to feelings they held three months earlier:

Feelings about Computer in January/May

Table 5.9

Feelings in January	n	Feelings in May	n
Interested	23	Confident	14
Fun	18	Fun	14
Helpful	15	Helpful	13
Exciting	14	Interested	12
Comfortable using by myself	11	Exciting	11
Easy to use	8	Easy to use	8
Uncomfortable using by myself	7	Comfortable using by myself	6
Confident	6	Boring	3
Afraid	6	Not interested	2
Not easy to use	4	Not helpful	1
Dislike	3	Other: so-so	1
Not helpful	3	Dislike	0
Boring	2	Cold	0
Not interested	2	Nervous	0
Silly	1	Not easy to use	0
Cold	1	Silly	0
Other: A little bit confident	1	Uncomfortable using by myself	0
Nervous	0	Afraid	0

As per the data above, a considerable number of negative words and phrases like "afraid" (6), "uncomfortable" (7), "not easy to use" (4) and "dislike" (3) were used to describe feelings about computer use in January, when students first started the project (personal interview question 15). However, describing their feelings in May, students did not use a single word reflecting anxiety, fear, discomfort, lack of confidence or skill in using computers. In addition, only 6 students reported being "confident" about using computers in January, whereas this number grew to 14 by May (personal interview question 16).

It should be noted that the students selecting the words "cold" and "silly" (Table 5.9) satisfactorily explained their answers later on: "cold" because the computer room was air-conditioned and "silly" because e-mail from their partners made them laugh—the term "silly" being confused with the term "funny."

Although the frequency of the word "interested" (in computers) dropped from 23 in January to 14 in May, the majority of responses still indicated a positive attitude towards computers, and students selected words like "fun" (14), exciting (11) and helpful (13). Whereas the diminished use of "interested" is significant, it may be explained by the fact that this word is normally used to describe an activity before one encounters it, as in the sentence "I am interested in learning computers." After the encounter, it seems more likely that one would select a word based on concrete knowledge of the activity, such as "fun" or "helpful."

5.7.2 Example 2: English with Computers

Personal Interview Question 15 and 16: How did you feel about using computers at the beginning of our project in January? At the end of our project in May?

The table below highlights movement or stability of student attitudes towards learning with computers, in January before the project began, and again in May:

Change/Stability of Attitude towards Computers in January and May

Table 5.10

January, 1999		*May, 1999*	n
Positive	to	Remained Positive	20
Negative	to	Positive	8
Positive	to	Mixed	2
Positive	to	Negative	4
Mixed	to	Positive	2
Negative	to	Remained Negative	2
Negative	to	Mixed	2

Although the largest category shows no change in attitude towards computers (20 students with positive reactions remained positive) this fact is important in itself, indicating continued contentment towards the computer portion of the project. However, the shift of 8 "negative" students to the "positive" side is important. One of these students (personal interview question 15) states that in January, he felt computers were:

> (Arthur): ". . .quite boring. Actually, at first I'm dislike it.
>
> (Teacher) "Why?"
>
> (Arthur): "Because of my typing skills."
>
> . . .but by May he had changed his mind (personal interview question 16):
>
> (Arthur): "Now I have my typing skills improve and I have learned more and more about the computer and how to use the computer.
>
> (Teacher): "Do you still feel it is boring?"
>
> (Arthur): "No"

Maggie additionally recalls her feelings in January (personal interview question 15):

> " I am very afraid to use computer at first, and I type very, very slow."
>
> . . . but reported that by May (personal interview question 16). . .
>
> "I feel more confident for using computer than before. And I spend may time on ICQ now. And I have improved my typing speed."

It is important to note that four students report computers did not improve their English ability at all. Although these numbers are small, they do reflect real

concern and anxiety over exams. Here are some of the reasons why (Personal Interview Question 16):

> (Alicia): At the beginning I think it is quite interesting. It is excited for me to type the letter to the people in other country. Now, I think it is quite boring. In fact, I feel my English has improve just a little. Not very much. Also, I am very nervous about the coming examination."
>
> (Vickey): "Now, I think that computers is not quite helpful. I just know that how to send e-mail. Nothing I have learned. I felt very disappointed."

5.7.3 Example 3: English with Computers

Personal Interview Question 14: Do you prefer learning English with or without computers?

Prefer Learning With/Without Computers

Table 5.11

Answer	n
With	38
Without	5
Both	1
Student was not asked	1

A majority of students (38) preferred learning English with computers, for a variety of reasons, the most commonly reported reasons being that they made writing "easier," helped to correct spelling and punctuation mistakes, were "modern," "useful," "interesting" and "faster" than writing letters by hand. This question received the second-highest number of positive responses (38) on the personal interview.

Of the five students who did not like learning English with the computers, one gave the following reasons (personal interview question 14):

> (Lisa): ". . . I don't like computers and I can't use the computer properly. I should find someone to help me. I don't want to trouble my classmates."
>
> (Wanda): "Oh...I cannot type. See one word and type, one word...see one word and type one word."

5.7.4 Example 4: English with Computers

Pre-Survey Question 23 and Post- Survey Question 7: I am not interested in using computers in my English class:

Computer Use Interest in English Class

Table 5.12

Question	Pre-mean	Post-mean	t	p
I am not interested in using computers in my English class	1.98	2.33	1.89	0.066

*$p < 0.05$

The table above shows what might appear to be an anomaly at first glance—post-survey results indicate a drop in interest in using computers in English class from the beginning to the end of the project, which might be interpreted as dissatisfaction with the model, itself. Although this decrease is not statistically significant, I offer several plausible explanations: the novelty of a new program wearing off, a crowded computer room with only one computer to send e-mail with, delayed responses from Iowa, or more likely, all three to some extent. I believe the latter (delayed responses from Iowa) may have affected students to a greater extent than other reasons—it was virtually the only complaint that students verbalized to me during class, and they did so on numerous of occasions. This problem was also listed as most "needing change" for the entire model (Table 5.8, p. 29).

Additionally, 4E students had never used computers during English lessons before this project. Therefore, they may have held unrealistic hopes of how computers might help them learn English, which would have translated into a high pre-mean score such as the one above (this was the highest mean score on the entire pre-model survey).

It is important to note, however, that on the post-model version (question 23), a considerable number of students (.755) still reported scores higher than the mean of 3.00—indicating continued student interest in using computers throughout the duration of the project (Table 5.12 above and Tables 5.9 – 5.11 on pp. 31-35). In fact, question 23 earned the second highest mean score on the post-model survey, which I interpret as continuous interest in our model.

5.8 Research Question 2:

Do computer background and keyboarding skills have an effect on attitude, interest or motivation towards collaborative e-mail projects for learning English?

The 4E class was divided on computer ability, with twenty-eight students describing themselves as having good computer backgrounds (pre-model question 9), 15 students describing themselves as having weak computer backgrounds and 2 students with average backgrounds.

5.8.1 Example 1: Computer Skills Effect Language Learning

Correlation Matrix for Input and Output Measures on Pre- and Post-Model Surveys

Table 5.13

		HRSWEEK	SELFASS1	IMPROVED	SELFASS2
	r	0.586	-0.230	-0.387	-0.575
CANDO	p	0.000***	0.129	0.009**	0.000***
	N	44	45	45	45
	r		-0.016	-0.443	-0.310
HRSWEEK	p		0.918	0.003**	0.040*
	N		44	44	44
	r			0.310	0.426
SELFASS1	p			0.038*	0.004**
	N			45	45
	r				0.459
IMPROVED	p				0.002**
	N				45

As per Table 5.13 above, correlations were examined between input measures, including one related to self-assessed computer ability (with word games, word processing, CD-ROMs, e-mail, databases, installing programs, graphics, computer programs and the internet) and output measures related to self-assessed improvement (writing, speaking, reading, understanding, computer ability, peer comments, writing revisions, getting good exam results). (Appendix "U"). The correlation between input measure "CANDO" and output measure "IMPROVED is negative and statistically significant ($r = -0.387$, $p < 0.01$). This indicates that high levels of computer ability are associated with low levels of general satisfaction with the project, and vice versa (low level of abilities associated with high levels of project satisfaction). We can have some confidence in this result, since there is also a highly significant negative correlation between "CANDO" and "SELFASS2", indicating that high levels of computer ability are associated with low levels of post-model self-assessed ability.

The correlation between number of hours students use computers at home each week (HRSWEEK) and the output measures "IMPROVED" is also negative and statistically significant, as is the data from "HRSWEEK" and self-assessed ability (on post-model survey) in the four language skills (SELFASS2). These negative correlation coefficients all form a pattern, which has a common interpretation.

These data, although not as positive as I would have liked, are certainly understandable. A general decline in student interest and motivation is a natural and familiar process in any pedagogical program as it proceeds. Therefore, it is natural to assume that students who had the highest expectations of a project will have experienced the greatest fall in confidence with regard to the skills most closely associated in their minds with the program.

In addition, students with the highest computer abilities would naturally have found redundancy in the computer-related parts of our project: initial training in word processing, saving files and sending e-mail documents—essentials that other students needed in order to perform the basic requirements of the exchange. Also, several of 4E's "strong" computer users (10) had exchanged e-mail with foreign partners in the past, and therefore, would not have felt the same initial excitement about sending messages as first-time users.

To the contrary, "inexperienced" computer users may have felt excitement over using new technology, as well as personal satisfaction in learning (computer) skills that they had never used before.

5.9 Research Question 3:

Do students perceive that this project has helped them learn the four language skills?:

(a) Writing
(b) Reading
(c) Speaking
(d) Listening

5.9.1 Example 1: Learn the Four English Skills (combined)

Pre-Survey Questions 11, 12, 13, 14, and 21; Post- Survey Questions 1, 2, 3, 4, and 13.

Has Project Helped With Four Language Skills?(combined)

Table 5.14

Question	Pre-mean	Post-mean	t	p
I can write an English composition with ease	2.96	3.18	1.81	0.077
I can speak English with ease	3.02	3.16	1.03	0.309
I can read English with ease	3.18	3.29	0.93	0.359
I can understand spoken English with ease	3.11	3.32	1.39	0.173
I am confident about my English ability in general, including reading, writing, speaking and listening	2.71	3.00	2.23	0.031*

*$p < 0.05$

The data above indicate a small but statistically significant increase in students' general confidence in the four English skills: speaking, reading, writing and comprehension, after participating in our project. Upon examining the mean scores for individual skill areas, we find the greatest gain in perceived language

ability is reported for writing, followed by listening comprehension, then speaking and finally reading.

5.9.2 Example 2: Learn the Four English Skills (speaking and writing)

Personal Interview Question 3: Which activities during this project were the most helpful for learning English?

Most Helpful for Learning English

Table 5.15

Activities	n
Speaking practice in small groups	27
Getting comments from your Iowa partner about your essay	16
Cooperative learning in small groups	15
Writing Imaginative Essays	15
E-mail practice	12
Reading Imaginative Essays from Iowa	10
Writing comments to your Iowa partner about their essay	9
Computer practice	7
Personal letters to partner	7
Small group comments on essays	7
"Hello" Letters	5
Making Cloze Exercises	4
Answering your partners' Cloze Exercises	4
Other:	2
(a) Improved thinking	1
(b) Have native speaker as teacher	1

As indicated in Table 5.15 above, the majority of students (27) believed that small group discussion was the "most helpful" means of improving English, for a variety of reasons, indicating a perceived improvement in speaking skills. "Writing imaginative essays" (15) is tied for third place, showing that students are generally positive about writing skills learned from the project, while labeling them among the "most helpful" parts of our model. I also argue that the second item above, "getting comments from your Iowa partner" (16) is directly related to

writing, since many of the comments were stated on a grading rubric intended for improving written essays.

5.9.3 Example 3: Learn the Four English Skills (speaking and writing)

Personal Interview Questions 12A: Do you think this project helped you gain skills you will need in the future?, and Personal Interview Question 12B: If so, which skills?

Did Project Help Gain Skills for Future?

Table 5.16

Answer	n
Yes	42
Maybe	2
No	0
Don't know	1

If So, Which Skills?

Table 5.17

Skill	n	Skill	n
Speaking skills	26	Cooperation	2
Writing	10	Grammar	2
Listening	5	Presentations	2
Typing	4	Holding discussions	1
Communicate with foreigners	3	Listening to other's opinions	1
E-mail	3	Working on projects	1
Computer skills	2	Word usage	1

As per the data in Tables 5.16 and 5.17 above, students believe they improved in speaking and writing more than other skills during the exchange—reconfirming the same results found in Table 5.16 above. Although writing does not receive the hearty response that speaking does, it is still ranked second in terms of skills perceived as being learned for the future.

5.9.4 Example 4: Learn the Four English Skills (reading)

Pre- and Post-Survey Questions 29 and 19: I think my English reading will improve/has improved

English Reading Improvement

Table 5.18

Question	Pre-mean	Post-mean	t	p
I think my English reading will improve/has improved	3.89	2.98	5.16	0.00***

*p < 0.05, **p < 0.01, ***p < 0.001

There is a highly significant decrease in the English reading variable on the post-survey, which seemingly indicates a decrease in student confidence in reading ability. I do not believe this to be the case for several reasons. Most importantly, students were given the pre-model survey a week before the project commenced—without an indication of what the project would entail, other than a vague notion that it involved collaboration with a foreign class via e-mail. Therefore, student hopes that their reading skills might "improve" as a result of this project, were neither based on concrete experience or knowledge of the model.

Secondly, we spent less time on reading than on the other three English skills. In addition, we did not do the type of reading that 4E students were accustomed to: studying textbook examples of model essay patterns or explanations of discrete grammar functions. Instead, much (although not all) of our reading time focused on peer essays and informal e-mail communication—items that students may have seen as unrelated to their exams. Some students may have felt that these reading models were less "legitimate" than those from their exam-oriented textbook. Finally, the wording of the pre-model ("I think my reading will improve")and post-model question ("How much has your skills in the following areas (reading) improved as a result of this project?") were not identical, making it difficult to draw conclusions based on equivalency.

Rather than view this data as a decrease in reading confidence, as may be implied by the data, I prefer to interpret this as part of a general decline in

expectations as the project proceeded, which is a natural process with any pedagogical program. This interpretation would support my similar proposition in Table 5.12 (p. 35), which also shows a slight decline in interest for using computers in English class, as the project progresses. I also point to data from Table 5.14 above, indicating a small (although not statistically significant) gain in reading confidence, at the project's end.

5.9.5 Example 5: Learn the Four English Skills (writing)

Pre- and Post- Survey Questions 27 and 17: I think my English writing will improve/has improved:

I Think My English Will Improve/Has Improved

Table 5.19

Question	Pre-mean	Post-mean	t	p
I think my English writing will improve/Has improved	3.98	3.20	4.63	0.00**

*p < 0.05, **p < 0.01, ***p < 0.001

The data in Table 5.19 above seems to indicate a significant decrease in student confidence in writing skills as a result of this project. However, as in the case of reading skills above (Table 5.18, p. 42), I do no believe the data represents a true loss of confidence. Students were asked this question before the project commenced, and without indication of what the it entailed, could not have accurately given an opinion as to what type of writing instruction would/might involve. Additionally, the wording of the pre-model question ("I think my reading will improve") and post-model question ("How much has your skill in the following area (writing) improved as a result of this project?") were not identical, making it difficult to draw conclusions based on equivalency. Finally, It is my general assessment of both verbal and written student feedback, as well as data previously discussed in Table 5.15 and Table 5.17, that students, did in fact, seem to feel slightly more confident in their writing by the project's end.

5.9.6 Example 6: Learn the Four English Skills (listening)

Pre- and Post- Survey Questions 30 and 20: I think my English listening will improve/has improved:

English Listening Improvement

Table 5.20

Question	Pre-mean	Post-mean	t	p
I think my English listening will improve/Has improved	3.18	3.36	0.88	0.383

*$p < 0.05$

Although there appears to be a slight increase in listening confidence at the end of the project, this cannot be ascertained with certainty, since the wording of the two questions were different, and during the pre-survey, students did not have concrete knowledge of project specifics needed to base an opinion on. However, the fact that students had listened to a native English speaker for three months during the project's term, may have had resulted in the data above.

5.10 Research Question 4:

Do students believe that collaborative, cooperative learning helps them learn English?

Cooperative learning has already been reported as the project's "most fun" activity (Table 5.5), the "most useful to repeat" (Table 5.7) and the "most helpful" activity for learning English (Table 5.15). Students additionally state that cooperative learning helped them learn English—particularly in speaking skills (41 responses), listening sills (32 responses) and thinking skills (29 responses) (Table 5.18). However, it should be noted that these statistics reflect only student perception and perceived gains; not actual gains.

5.10.1 Example 1: Cooperative Learning

Personal Interview Question 8: What do you think of cooperative, small-group learning?

Thoughts on Cooperative, Small-Group Learning

Table 5.21

Answer	n
General	
Positive reaction	34
Mixed reaction	7
Negative reaction	4
Positive Points	
Oral English practice	31
Improves our speaking	16
Fun/Enjoyable	12
Learn to cooperate with others	7
Learn together with others (as opposed to individually)	6
Share ideas/opinions	6
More efficient way to learn	4
More communication	3
Helps with HKCEE exam	2
Increases courage	5
Can talk about own interests	1
More authentic situation	1
Teacher will assist	1
Peer tutoring	1
Increase friendships	1
Learn more about classmates	1
Practice leadership	1
Negative Points	
Some students are too shy/quiet	15
No negative points	5
Cannot correct oral mistakes	2
Some use Chinese	2
Lack of sufficient vocabulary	4

Room too noisy	4
Not efficient way to learn	3
Some talking off task	3
Takes time away from texts/ exams	3
Arranging desks takes too much time	2
Some students are too talkative	2
Nervous to speak up	2
Not enough time (want to do more)	2
Group members not friends	1
Can't improve our English	1
Introduction not clear	1
Some members do more work	1

The majority of students (34 responses) favored cooperative small group learning; especially for the reasons of getting "oral English practice" (31) and "improves our speaking" (16). Although these last two items are similar, they have been separated because oral practice does not always imply oral improvement. All in all, a total of 99 positive responses were reported for the cooperative learning process, in contrast to 54 negative responses. Some of the positive responses (personal interview question 8) were as follows:

> (Alisha): "I'm very enjoy in this. I can speak more frequently and to be more brave to speak."
>
> (Wanda) "I think the group discussion is quite helpful because when we do write a composition, we can share our opinion to the other's and teachers. In the traditional class. . .we only give our composition to our teachers."

Negative responses to cooperative small group learning also included the following:

> (Wanda): "I think its quite helpful but if you. . . (if) your partner is quiet, then you don't get any more than in traditional class."
>
> (Kip): "Bad points is someone may do all the work himself. . . but he is better to do it. . . we chose him to do. We don't like to do work."

5.10.2 Example 2: Cooperative Learning

Post-survey Question 36A and B: My favorite activity/ies during the project was/were:

Favorite Activity

Table 5.22

Favorite Activity		**Reason why liked Cooperative SGD**	
Cooperative Small Group Discussions	22	Improves our English	14
E-mail	14	Opportunity for practicing English	9
Receiving comments from Iowa about our Imaginative Essays	6	Opportunity for sharing ideas	6
Cloze Exercises	2	Interesting	4
Hello Letters	2	Gives confidence/ courage to speak	3
Writing Imaginative Essays	2	Classmates can help each other	2
Receiving comments from Hong Kong classmates about our Imaginative essays	1	Students make own choices	2
Nothing	1	Practice for oral public exam	1
No answer	1	Students see classmates' work	1

The data above shows that students' favorite activity was small-group discussions—a part of the larger "cooperative learning" paradigm. This data corroborates information from Table 5.21 above, giving a sense of confidence to the response.

5.10.3 Example 3: Cooperative Learning

Personal Interview Question 9C: Did you find peer-commenting in small groups helpful?

Helpfulness of Peer Commenting

Table 5.23

Answer	n
Yes	24
Mixed	8
No	8
Students were not asked	5

Peer commenting in cooperative groups was another aspect of the general "cooperative learning" paradigm used during the project. As indicated in Table 5.23 above, 53% of 4E students (24) found "peer commenting in small groups" helpful for learning English. Some of these students say the following (personal interview question 9C):

> (Arthur) "When they something wrong about grammar or usage I can have the correction."
>
> (Harry): "It is helpful because can learn more about other's experience."

However, student opinion on the helpfulness of peer critiquing does not indicate actual helpfulness. For example, my journal notes highlighted in Chapter 3, indicate mixed results during peer critiquing activities, while video taped excerpts show a more rosy picture.

5.10.4 Example 4: Cooperative Learning

Personal Interview Question 9C: Reasons given for not finding peer commenting helpful:

Reasons Peer Commenting was Unhelpful

Table 5.24

Answer	n	Answer	n
All have same English standard	7	Give higher grades because friends	1
Don't trust classmates' English	5	Not wholehearted/like a game	1
Didn't talk much	2	Contrasting advice from students	1
Don't take seriously	2	Didn't write answers clearly	1

Eight students (Table 5.24) did not find peer critiquing helpful. While the numbers are small, this still represents 17.7 percent of the class, and therefore, must be taken into consideration. Some of the reasons students did not find peer critiquing too helpful are listed below (personal interview question 9C):

(Alisha): "I don't know the partner is good in English or not."

(Alistar): "Some of them (group members) misunderstand my essay."

(Alex): "Not helpful because we know each other. They will make the comment be more higher because we are friends."

From the data in Tables 5.23 and 5.24, it appears that while cooperative learning in general, was favored by most students, the 4E class was divided on the peer-critique element of cooperative learning.

5.10.5 Example 5: Cooperative Learning

Pre- and Post- Survey Questions 20 and 14: My classmates in Hong Kong can help me improve my English writing by discussing my composition in groups

HK Classmate Help with Compositions

Table 5.25

Question	Pre-mean	Post-mean	t	p
My classmates in Hong Kong can help me improve my English writing by discussing my compositions in groups	3.02	3.16	0.61	0.546

In Table 5.25 above, there was a small rise in the means score, indicating that some students perceived their Hong Kong peers as having the ability to help them improve on written compositions, although this rise was statistically insignificant.

5.11 RESEARCH GOAL 3:

Implementing C-MC at a "National Curriculum" School

This research has found that following a "national curriculum" and developing a collaborative e-mail exchange are not mutually exclusive, although

there can be inherent difficulties, depending on time, resources, the flexibility of school administration, teachers and students.

Data shown in this section will address two aspects of integrating C-MC exchanges at "national curriculum" schools: teaching towards public exams and integrated curricular items into an international e-mail exchange.

5.12 Teaching Towards Public Exams

In theory, the "state-of-the art" teaching techniques, methods and theory utilized in this model, should have been helpful, if not ideal for honing student reading, writing, speaking and listening skills required for public exams. However, 4E students report that their exams emphasize discrete facts about English grammar and usage, as well as general communicative competence in the four English skills. Discrete English functions are normally learned through textbook exercises and memorization. For this reason, Hong Kong teachers (and I'm sure many others at "national curriculum" schools throughout the world) have fallen into the habit of teaching towards public exams.

Student feedback on the usefulness of our project in passing public exams reveals the following information:

5.12.1 Example 1: Public Exams

Personal Interview Question 11A: Do you think this project will help you pass your end-of-year English exams?, and 11B: Skills indicated as being helpful to pass exams

Will This Project Help You Pass Exams?

Table 5.26

Answer	n
Yes	18
Mixed response	5
Only a bit	9
No	8
Unsure	4
Student wasn't asked	1

Skills Indicated as Helpful to Pass Exams

Answer	n
Oral	20
Listening	14
Writing	11
Grammar	5
Vocabulary	3
Reading	1

The personal interview was administered to each student during the last four weeks of our project. At the time this question was asked, students had been engaged in the exchange for a period of 8-11 weeks—enough to know if exam-related benefits were evident or not.

As per the data above, a third of all 4E students (18) felt this exchange would help them pass public English exams. Speaking (20), listening (14) and writing (11) skills were most often linked to exam-related improvement, while students did not generally believe that grammar, vocabulary and reading had been improved to the point of helping them on public exams.

Several students mentioned concern about learning discretely taught skills (personal interview question 11B):

> (Taylor): "In our examination we need to exam the usage (grammar/word usage). This is why I think this project should talking more about usage.
>
> (Ron): ". . .the exam is just test your grammar and something else, but not the communication."

On personal interview question 2A, "What do you think of this project?" (Table 5.3), three students additionally report that the exchange did not include enough exam-related skills. Harry, for example, says:

> ". . . it (the project) only improve our talking and speaking English skills, not very much teaching grammar, but in the exam, grammar is more important than the talking skills."

However, on personal interview question 8, "What do you think of cooperative, small-group learning?" (Table 5.24), two students note that the

project was, indeed, helpful for passing public exams. Keith, for example, reports:

> "It is so interesting because in Hong Kong CEE (Certificate Education Exams)—this is a very important exam. On this exam the English there is an exam in oral. The exam is that four people sit together and talk, so when the English lesson you let four people sit and talk, so let me study in the exam."

In light of the data above, several students show concern that they might miss out on discrete language function skills normally taught by a "national curriculum," in this case, the Hong Kong secondary English curriculum.

5.12.2 Example 2: Public Exams

Post-model Survey Question 24: My skills for getting good results on my year-end English exam . . .

Improvement on Exam-related Skills

Table 5.27

Likert Scale	n	Percentage
1 = has improved very much	1	2.2%
2 = has improved somewhat	9	20%
3 = neutral	19	42.2%
4 = has improved just a little	10	22.2%
5 = has not really improved	2	13.3%
	m = 3.133	

I interpret this scale as a measure of agreement with the statement "My exam-related skills have improved." Adopting this interpretation, then the "neutral" is interpreted as a "don't know" response and the negative end responses ("has improved just a little" and "has not really improved") are interpreted as "disagree" and "disagree strongly." Positive end responses then represent "agree" and "strongly agree."

In Table 5.27 above, the mean score for the question is 3.133—a bit higher than the midpoint score of 3.0, indicating mild disagreement with the proposition that exam-related skills improved as a result of the project. Although

20 percent (9) believed the project had "somewhat" improved skills for getting good test results, only one student (2.2%) thought these skills had improved "very much." Although we cannot be certain that students interpreted the question as a scale of agreement, I think it is quite likely.

However, it must be recognized that a cooperative e-mail exchange is just one "slice" of the "curriculum pie", and that 4E students most likely learned discretely-taught grammar and usage skills in ESL lessons before or after the exchange (which lasted for only 3 of the 11 instructional months). They also learned exam-related skills with Ms. Chan on Tuesdays and Wednesdays when we did not conduct the exchange.

While teachers at "national curriculum" schools do need to keep public examinations in mind for obvious reasons, failure to teach holistic and "real-life" English skills at the expense of focusing solely on discrete points of language function, is not necessarily doing a service to students. It is this author's opinion that a blend of both general communicative skills and shorter term exam-driven skills, might provide students at "national curriculum" schools with the best formula for success.

5.13 Selecting Curricular Items to Integrate into an Exchange

Selecting curriculum items to integrate into a C-MC project at a "national curriculum" school, is one of the most important aspects of developing an exchange. Whereas the "national curriculum" must guide the project, there must also be room to teach necessary skills for employing new teaching/learning theories, methods and approaches that support student-centered, collaborative paradigms.

The BSTC-Green River Model was developed out of two distinct pressures: teaching the designated 4E syllabus at BSTC and teaching new skills demanded by a global telecommunications exchange. We were able to accomplish both to a certain extent, by focusing on selective elements of the "national curriculum," while addressing "real-life" English skills such as planning, organizing, revising, debating, negotiating, speaking, listening, reading, writing, and practice with human behavioral interactions—skills which would seem to

strengthen student ability on a public exam. This view, of course, assumes that acquisition of grammar and vocabulary occur most effectively, in the long run, through active use of the target language.

Unfortunately, it was not possible to incorporate all areas of the mandated Year 4 curriculum into the exchange, although a good selection was included. To do so would have been undesirable from the standpoint of both pedagogy and time. In addition, the exchange brought a large amount of new information into the syllabus: cooperative learning, process writing, collaborative skills and communicative language learning. Instead of trying to "do it all," I selected the most important items from the 4E curriculum, as well as those with the widest application. These included:

- **Writing:** Informal writing introductions, imaginative essays, descriptive paragraphs
- **Grammar:** Negative statements, conditionals and connectives, Cloze passages
- **Reading:** Cloze passages, comprehension and word usage exercises
- **Oral:** Group discussion, summarization, social interaction behavior and group negotiation

The exchange did not integrate the following activities, which were also mandated by the syllabus for the time period of the exchange:

- **Exams:** Review of past exams, taking mock exams
- **Grammar:** Conditional sentences, review of phrasal verbs

Instead, these topics were covered by Ms. Chan, the regular 4E English teacher, who still ran her class during 3 of the 8 English periods each week. This compromise solution might work at other "national curriculum" schools as well. For example, students could work on an e-mail exchange for 2 - 3 days a week, while studying exam-related or curriculum-mandated skills on the other days.

5.14 Conclusion

This chapter has examined and evaluated data related to the three major research goals and four research questions that guided this study. In doing so, I have tapped into student attitudes, opinions and beliefs about each of the major research goals and questions of this study, as expressed by students in their own

words, during personal interviews, classroom observations, or taperecored and audio recorded class sessions, or which were expressed by students through "Likert-type" responses on pre- and post-model questionnaires.

This analysis was recursive: I began by analyzing one set of data gathered from a particular instrument (for example, personal interviews), and then made comparisons between other instruments—surveys, observation notes and recorded class sessions—looking for connections and themes that surfaced around the main research goals and questions. What eventually emerged, was a portrait of student opinions, beliefs and attitudes towards the BSTC-Green River Model, including student input on particular aspects of the model, such as new teaching paradigms, exemplary methods and approaches, and developing skills necessary for a collaborative exchange, among others. The next chapter will look at conclusions, implications and recommendations related to the data analysis findings.

Chapter 6

DISCUSSION AND CONCLUSIONS

6.1 Findings

This study has thoroughly addressed the three main research goals and four research questions related to the BSTC-Green River collaborative e-mail exchange. In the previous chapter (Chapter 5), I have analyzed data related to each individual goal and question, presenting evidence related to each one, gathered through a large variety of research instruments and techniques. I provide a summarization of these findings below.

6.2 Goal 1: Evaluating an Instructional Model

An evaluation of the BSTC-Green River model found that this exchange accomplished what it set out to do—to employ and integrate "exemplary" theory, methods and approaches into the exchange model, while utilizing new teaching paradigms and related skills that are considered to be "state-of-the-art" in modern second language instruction.

Some exemplary methods and approaches successfully utilized during the course of this exchange (Chapter 5) included peer tutoring, cooperative learning and peer critiquing, while examples of new teaching paradigms made use of a "bottom-up" model of instruction, the "teacher as coach" model and "student-centered learning." BSTC students additionally demonstrated aptitude in a variety of newly-learned skills needed for conducting collaborative e-mail exchanges: planning, organizing, revising, debating, negotiating, fulfilling individual roles to meet group goals, remaining on task, constructing of personal knowledge, practice with human behavioral interactions and general communicative competence in a variety of settings (Chapter 5).

6.3 Goal 2: Examining Student Feelings, Attitudes, Opinions and Beliefs

Findings from this research provided insight into what intermediate-level secondary school ESL students thought, felt and believed about learning English with a collaborative e-mail exchange.

In general, 4E students at BSTC were positive about the exchange and believed it led to improved English in many ways. However, data gained from qualitative instruments clearly indicated a more favorable student response (towards the model) than data gained from quantitative instruments. Quantitative analysis therefore provided a useful alternative perspective, which although positive at times, did not always present a consistent or unequivocal picture of improvement across the whole range of attitudes surveyed by the questionnaires.

Qualitative data gained from personal interviews and pre- and post-model surveys, recorded class sessions and naturalistic observation, showed strong student support for this learning model and collaborative exchange. BSTC students used largely positive adjectives to describe the project, believing it was "a good learning experience," "helpful," "enjoyable" (Table 5.4) and something they would "like to repeat in the future" (Table 5.6). Speaking in small groups and cooperative learning were viewed as the "most fun" activities (Table 5.5), "favorite" activities (Table 5.22), and the activities "most helpful in learning English" (Table 5.15). In fact, cooperative learning, in general, received the most positive student response, with 75.5% of the 4E class reacting favorably towards it (Table 5.21). Students did not recommend many changes to the entire model—either in the classroom or computer room—suggesting satisfaction and contentment with the way the model was introduced and integrated into the 4E curriculum (Table 5.8).

Several 4E students, however, *did* have concerns about the exchange: primarily that their Iowa partners did not send enough e-mail and did not participate to the extent anticipated (Table 5.3). Other BSTC students had initial concerns about typing, word-processing and computer abilities, although these fears were largely allayed or non-existent by the end of the project (Table 5.9).

6.4 Goal 3: Examining Logistics of Implementing a C-MC Exchange at a "National Curriculum" School

This research found that following a "national curriculum" and developing a collaborative e-mail exchange are not mutually exclusive goals. However, implementing a successful C-MC exchange at a "national curriculum" school is certainly tied to factors such as timing, resources and flexibility of school administration, teachers and students.

This project successfully integrated curriculum-mandated skills and exemplary teaching methods, approaches and theories that fostered general communicative competence. However, I am cautious in claiming that newly learned skills such as debating, negotiating, revising, planning, organizing and practice with human behavioral interactions, contributed to student chances of success on public exams. Whereas the acquisition of grammar and vocabulary should theoretically occur most effectively through the active and communicative use of language, this may not be the case in the short-term, or in the case of exams that only test for discrete grammar functions or memory of facts about English.

BSTC Students, themselves, were ambivalent as to whether this model helped them improve on public exam-related skills (Tables 5.26 and 5.27). While some believed that their speaking and listening had improved as a result of the exchange, others wondered if general communicative strategies had been taught at the expense of exam-specific grammar structures and English facts (Chapter 5, pp. 158-160).

Students were additionally divided on the issue of peer critiquing. Whereas some students touted its benefits (Table 5.23), others claimed that all 4E members were equally weak in English grammar and writing skills, and therefore, could not critique effectively (Chapter 5, pp. 122-124).

Having considered the broad goals of this study, I now attempt to address the more specific research questions.

6.5 Research Question 1: Do Student Attitudes about Learning English with Computers Change as a Result of this Project?

A majority of 4E students indicated preference for learning English with computers, showing either contentment towards the computer aspect of the exchange for the duration of the project, or reflecting an increase in positive reaction towards computer use by the end of the exchange (Table 5.10). Students additionally displayed less anxiety, fear or discomfort over computer use at the end of the exchange, than at the beginning (Table 5.9).

6.6 Research Question 2: Do Computer Background and Keyboarding Skills have an Effect on Attitude, Interest or Motivation towards Collaborative E-mail Projects for Learning English?

Students who scored highly on self-assessed familiarity and time spent on computers tended to have low levels of satisfaction with the project, whereas students with low levels of familiarity and time spent on computers evaluated the project more highly (Table 5.13). This was evidenced through negative and statistically significant correlations between the measures "CANDO" (computer ability) and "IMPROVED" (improvement in reading, writing, listening, speaking, computer use, writing revision, making helpful comments and exam results), and between the measures "IMPROVED" and "SELFASS2" (self-assessed ability in the four English skills). There were also negative and statistically significant correlations between both "HRSWEEK" (weekly hours spent on computers) and "IMPROVED" and "HRSWEEK" and "SELFASS2."

This data complicates what to this point, has been a generally positive picture of the exchange/model. However, this can be explained by the fact that students with the highest computer abilities would naturally have found redundancy in the computer-related parts of our project, whereas inexperienced computer users may have felt excitement over using new technology and skills that they had never used before. In addition, a general decline in student interest and motivation is a natural and familiar process in any pedagogical program as it proceeds. Therefore, it is natural to assume that students with the highest expectations of a project would have experienced the greatest fall in confidence with regard to the skills most closely associated in their minds with

the program. Yet, it must be noted that 38 of the 45 students still preferred being taught English with computers, at the end of the exchange (p. 144).

6.7 Research Question 3: Do Students Perceive that this Project has Helped them Learn the Four Language Skills?

This research found an increase in the general level of confidence in English as a result of the exchange, and this difference was significant ($t = 2.23$, $df\ 44$, $p = 0.031$). This data was reflected by changes in the measures "writing," "speaking," "reading" and "understanding" variables, which received an aggregate reliability coefficient of .77 (Table 5.14). This reliability coefficient, while falling in the "acceptable" range (above 0.75), is not as high as I had hoped for. It can therefore be said that the experience of taking part in this e-mail exchange resulted in a small, but statistically significant increase in students' general level of confidence in the four language skills.

There was a highly significant decrease in "English writing" and "English reading" variables—for which the post-model mean rating was significantly less than the mean rating for the pre-model item. In both cases, the difference is statistically significant at the level of $p<0.001$, which seems to indicate that the experience of taking part in this exchange led to a decrease in student confidence in reading and writing skills (Tables 5.18 and 5.19).

As per my discussion in Chapter 5 (pp. 149-150), it is my feeling that student confidence in writing and reading skills did not actually suffer. I offer the following explanations for the phenomenon above: unrealistically high expectations of progress before the exchange took place, dissimilarly-worded questions on pre- and post-model surveys, and the natural tendency for students to lose interest in any pedagogical program after the beginning.

Additionally, information garnered from qualitative instruments reveals that student perception about writing, in particular, was mainly positive (Tables 5.7, 5.15, 5.17, 5.26). Therefore, the importance of triangulation can be seen: when we look at a more holistic picture of student attitudes towards writing and reading, gathered through surveys, teacher observation, journals, personal

interviews and other research instruments—the picture is a largely positive rather than negative one.

6.8 Research Question 4: Do Students Believe that Collaborative, Cooperative Learning Helps them Learn English?

This research found cooperative learning to be the favored exchange activity. A majority of students enjoyed cooperative learning tasks and believed that they helped them learn English—particularly speaking, listening and thinking skills (p. 154). Small group discussions were 4E's "favorite activity", while students believed that cooperative learning exercises were "fun," "useful to repeat" and would help them out in the future.

The preceding paragraphs have shown that I have adequately addressed the three research goals and four research questions that guided the study. However, the answers were not always what I have expected or anticipated.

6.9 Strengths of the Study

One of the strengths of this study is that it was conducted in a natural setting. As part of naturalistic inquiry, the researcher did not try to manipulate the research setting. In this way, she could listen to students' own words, see their behavior as it unfolded, and could freely explore feelings and attitudes. Having taught Chinese students for more than 16 years prior to the commencement of this project, the researcher possessed a unique awareness of her Chinese population, allowing for interpretation of cultural phenomena that might perplex others, including body language non-verbal communication and Asian learning traditions. This background also gave her insight on how to approach Chinese secondary students and to better understand results during interviews, on questionnaires and during class activities.

Another strength of this study was the use of "triangulation" or multiple data gathering methods to verify and double check results. In this case, 10 separate instruments were used to gather evidence, lending to the general credibility of analysis and results. This study additionally relied on background

experience from seven previous collaborative e-mail exchanges with students of similar ages, language abilities and backgrounds.

Finally, the case selection at BSTC fit the description of an "ideal-typical-bellwether" case—the most ideal situation—since the 4E student profile was considered among the "best", "most efficient" and "most desirable" in the local area, supported by both high student test scores and generally strong computer backgrounds (Chapter 4, p. 80).

6.10 Limitations of Study

Progress in language learning is difficult to measure over a short period of time because it is a relatively slow process. Although I spent three months together with my student population, it is a well-known phenomenon in language learning research that short-term effects of a particular treatment can change six or eight months down the road. Therefore, I am cautious in making claims about long-term outcomes resulting from this exchange. In addition, one must be cautious of what is known as the "Hawthorne Effect" which stipulates that increased motivation often results from knowledge that one is taking part in a scientific investigation. Increased student motivation may also have resulted from factors such as the novelty of the project, having access to a native English speaker or using computer equipment in a language class for the first time.

As for the implications of this study's anomalous results, teachers need to be realistic about the benefits that they expect for their students when embarking on a C-MC exchange. At the same time, they should not hold back on initial zeal or enthusiasm—two factors that certainly have potential to affect student outcomes. Perhaps the strongest point to be made is about the short-term effect of one-off projects such as the one I am reporting. The implication is that they should become part of the regular curriculum, and then the benefits of the program can make themselves felt over a longer period of time.

Another limitation of this study was that I was a "newcomer," rather than an "insider" at BSTC, in spite of my three-month tenure at the school. Therefore, I could not assess the type of learning that went on before I met 4E students,

and could not analyze student personalities in relation to their responses in the way that a "long-time" teacher could.

A final limitation was the number of uncontrolled variables affecting the exchange goals. This is an especially common phenomenon when working at a school site, where the dynamics often involved unexpected and unplanned events. For example, the schedule at BSTC constantly changed, resulting in the rescheduling of e-mail activities and other important project elements. Green River Community High School, on the other hand, was occasionally closed due to winter storms, and on one occasion, the whole student body lost their e-mail privileges for a two-week period, after a particular student (not in our partner class) used foul language over the Internet.

Finally, Green River students were not prompt with correspondence, and the length of time it took them to answer our letters curtailed the number of exchanges we had originally planned. They also had trouble meeting deadlines, such as the compilation of our jointly published magazine and the mailing of our "cultural box."

6.11 Contributions

This research makes contributions to our knowledge about computer-mediated communication (C-MC) and English as a Second Language (ESL) learning. First, it offers a sound framework for a collaborative e-mail exchange tailor-made for secondary ESL students, and based on exemplary pedagogy and "state of the art" teaching methods. Secondly, it allows us to see, hear and feel student beliefs, attitudes and opinions towards a secondary ESL exchange, while learning what students perceive to be the benefits or caveats of such a project, in their own words.

Finally, the data suggests some interesting implications for designing collaborative exchanges at "national curriculum" schools. For example, I found it entirely possible to integrate curriculum-mandated skills into a C-MC exchange, using exemplary teaching methods, approaches and theories, while teaching them in a way that fostered general communicative competence.

6.12 Research Implications for the ESL Classroom

As language departments throughout the world spend increasing amounts of time and money to incorporate computer technology into the ESL classroom, it is important to ask if the shift to technology is in proportion to its pedagogical value. What are the pedagogical values of collaborative, computer-based writing for the ESL teacher and students? Do telecollaborative e-mail activities promote and complement the goals of the ESL classroom, or do they cause educators to circumvent educational goals in favour of advancing new technology? These are important considerations, especially in light of Stok's admonition (1993) that technology often occurs too far apart from the development of educational goals.

This study was primarily qualitative, focusing on what 4E students believed about their C-MC exchange and English language learning. Apart from this evaluative study, ESL literature would greatly benefit from a parallel analysis of how quantitative data—tests in any or all the four English skills (reading, writing, listening and speaking) as well as public exam scores, measure up to student perceptions of learning gains after experiencing a collaborative e-mail exchange. However, such a research project must be conducted over a much longer period of time than the three months I was allotted.

There are countless other questions about collaborative e-mail projects in the ESL classroom that are still open for investigation. For example, there is the question of whether ESL exchanges should be enacted with native language speakers, other ESL learners, or perhaps, a combination of both. And when ESL classes ***do*** select first-language partners, will there be a fair and equal exchange of information? For example, if an L1 class agrees to provide a good model of written language for L2 students, what will the ESL class provide in return? Depending on the circumstance, perhaps information about their part of the world, cultural practices, participation in a jointly produced publication or even information for special surveys that the partner class is working on. However, the exchange must be reciprocal, and learning goals on both sides must be established up front.

Another subject worthy of further investigation is an examination of how the notion of "community" is formed via forms of electronic communication. Barker and Kemp (1990) speak of "discourse communities" and how students

are empowered and enfranchised when they become participants. Future analysis could focus on the extent that students feel a sense of belonging to discourse communities when they engage in collaborative e-mail exchanges, and what the markers, boundaries and signs of such communities would be. Document analysis and discourse analysis might both prove fruitful means of researching this topic—especially since e-mail leaves a full transcript of each exchange as it transpires.

Future research could also examine the notion that ESL students should learn e-mail and computer technology not just to improve their English, but for "global life outside the classroom" and to become "lifelong learners" (Crawford, 1995). This idea stems from the fact that ESL learners commonly come from the most disadvantaged sections of the society and might not otherwise have access to computer technology—what is quickly becoming the key to success in the 21st Century.

While many ESL teachers already see their role as empowering students to deal with situations of communicative survival outside the classroom—especially where institutional power is weighted against them—others envision a broader role: teaching language the best way possible while simultaneously preparing students for the demands of integration into a largely-computer oriented society. Frizler (1995, p. 5), for example, argues in response to her college-level ESL students:

> "The networking culture that will find its way into all schools (if they are to survive) requires participants to be more than just consumers of information and knowledge. They must also become contributors as well. . . .Our kids will become actively involved in research, synthesis and presentation of knowledge rather than passive observers of it."

One final question is how much or how often e-mail exchanges should be used in the ESL curriculum in order to achieve optimal results. This answer is perhaps as varied as each unique set of ESL learners. However, there are a few guidelines to keep in mind. Kern (1995, p. 470) reminds us that computer-mediated discussion is "not a panacea for language acquisition, nor is it substitute for normal classroom discussion." What it does offer is a powerful, *additional* means of restructuring classroom dynamics and a novel context for social use of language.

6.13 Summary

In conclusion, this study supports the idea that collaborative, multinational e-mail exchanges can play an important role in secondary-level ESL education. Johnson, Johnson & Holubeck (1994a) pinpoint two important reasons for ESL teachers to embrace technology: firstly, to prepare students to live and work in a world permeated with technology, and secondly to change the nature of education to reflect needs of the future workplace and society—especially trends towards collaborative efforts and global perspectives.

However, too often, technology is brought into the classroom without thought of how it will complement curricular goals. Technology for technology's sake is certainly not the answer. If we instead, accept that C-MC may be beneficial for ESL students when used in tandem with appropriate pedagogy and methods, we can start assisting students not only in language learning goals, but larger educational goals. The next step is to determine how, why and when to incorporate collaborative exchanges into our ESL classes, or whether to create new curricula or adapt old, in order to maximize student outcomes. This is what I have attempted to accomplish by presenting the framework and model for this collaborative e-mail exchange, as described in this research.

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Appendix "A"

"Hello Letter"

From: Buddhist Sin Tak College <bstc@hknet.com>
To: Jerry Ramer <Jerry_Ramer@.Greenriver.k12.ia.us>
Date: Wednesday, March 24, 1999 1:48 PM
Subject: hello from Kattie

Jerry,

Hi! I am Kattie Cheng. Nice to meet you. I study in Buddhist Sin Tak College. Therefore, I need to learn Buddhist studies. It is so difficult, you know. I am very short but not fat. Therefore, my body size doesn't like a ball. I'm a member of our school volleyball team and my position is setter. How about you? Do you play volleyball?

My parents love me very much. In addition, I have one elder brother. He is not tall but he is nice. He loves me, too.

However, the one I love most is my grandmother. She has been looking after me for 15 years. It is a very long time. Therefore, during the weekends or holidays, I'll go to her home to look after her.

Are you happy in your school life? I'm happy because I have many best friends in my class. Some are boys and some are girls. Many of the girls are playing volleyball. So, we are always together for playing competition and shopping. Are you similar to me?

Hey! Do you play ICQ? If yes, can you give me your number, please?

Looking forward to your reply.

Kattie

Appendix "B"

Cloze Activity

From: Buddhist Sin Tak College <bstc@hknet.com>
To: charles alrich <Charles_Alrich@.Greenriver.k12.ia.us>
Date: Thursday, March 11, 1999 3:37 PM
Subject: cloze activity

>Our School Life
>
>Our school life is 1._____. Each year, our school holds
>many 2._____ for us, such as sports day and English
>Speaking contests. Since our school is a Buddhist school,
>there is a 3._____ statue in our school hall and we
>have a regular 4._____ in which people can pay tribute
>to the Buddha.
>
>Our school provides many 5._____ activities for us,
>for example, Japanese Kungfu(martial arts), planting and
>other 6._____. We have to wear uniforms to school.
>Both boys and girls need to wear 7._____ in winter. The
>boys 8._____ brown uniforms whereas the girls wear
>yellow uniforms. Many people say that we look like
>bananas.
>
>Our school is a 6-storey 9._____ . There are two
>washrooms on each floor. They are dirty. No toilet paper
>is provided and the 10._____ are always broken.

From: BSTC
From: Buddhist Sin Tak College <bstc@hknet.com>
To: Manny Diestel <Manny_Diestel@Greenriver.k12.ia.us>
Date: Thursday, March 11, 1999 3:48 PM
Subject: cloze activity

>The Peak
>
>Have you ever heard the phrase "the (1)_____ of the
>Orient"? It is a name given to Hong Kong because of its
>beautiful (2)_____ views. The colourful lights of
>buildings at night make a beautiful three-(3)_____
>picture. The view is fascinating.
>
>If you want(4) _____ enjoy this wonderful night view, the
>best place(5) _____ the Peak. You may get to the Peak by
>the Peak tram. When you reach it, you can see a big
>shopping mall. Tourists can buy a lot of (6)_____ there.
>The view of the Peak is famous all over the (7)_____.

>Therefore, it is considered a famous (8)_____ spot in Hong
>Kong.
>
>Many years (9)____ when Hong Kong was still governed by
>the (10)_____ government, (11)_____ people were forbidden
>to go to the Peak. Only British could go there or live
>there. Since no cars could reach the Peak, the British
>could only arrive at the Peak by a (12)_____ carried on
>the backs of two to four (13)____. Now, these rule no
>longer (14)_____. Everyone can go there and (15)_____ the
>breathtaking night view of Hong Kong.

From: Buddhist Sin Tak College <bstc@hknet.com>
To: Kevin Roberts <Kevin_Roberts@Greenriver.k12.ia.us>
Date: Thursday, March 11, 1999 4:19 PM
Subject: cloze activity

>Hong Kong International Airport
>
>Hong Kong International Airport is one of the most
>(1)_____ in the world. It was finished in 1997. It is
>far (2)_____ from the city center. However, it is
>(3)_____and has a (4)_____-developed link up system with
>the rest of the city. It has much (5)_____ equipment and
>works efficiently. In addition, it has a (6)_____
>design, which makes it very (7)_____. Besides,
>automatic trains connect the eastern and western part of
>the airport.
>
>On the first opening day, there were lots of problem. All
>the things went (8)_____. The display screens were out of
>order. Lots of flights were (9)_____ or even (10)
>_____. Many passengers couldn't (11)_____ in or out.
>They had to stay in the airport for a long time. After
>this (12)_____ experience, the Department of the Airport
>made a (13)_____ improvement. Now, everything runs
>(14)_____. It is now a safe and reliable airport. Being
>a Hong Kongers, we all like this airport and are very
>(15)_____ of it.

Appendix "C"

Examples of Imaginative Essays

71

Describe what you would do if you suddenly became a millionaire.

If I suddenly became a millionaire, the first thing I would do is to buy my parents a new, luxurious apartment. Ever since they were married, my parents have had to struggle to make ends meet. I would so enjoy being able to relieve them of the burden of monthly bills. At present we live in a small flat on a Government estate. Mum keeps it spotlessly clean, but she cannot increase its size. With my money I would change all that.

Another way of using my wealth would be to pay for my brother and sister to be educated abroad. They both dream of boarding school in England, having read lots of Enid Blyton stories about adventures there. I only hope they will not be disappointed.

Next on my shopping list is a spanking new car for my Dad. Every morning he dashes off, after a hurried break-fast, to queue for the bus to get to work on time. He would be thrilled to have his own car and hopefully breakfast will become a more leisurely affair.

Then my attention would be turned to charities, both overseas and local. If I were lucky enough to become a millionaire overnight, I would like others less fortunate than myself to benefit too. I would have to find out more about which are the most deserving charities before making my donation. I think something for children would be the most appropriate.

Now it is my turn! I would invest most of the rest of my money according to my parents' advice. However I would keep a certain sum of money just for a shopping spree. Think of all the fun I would have going round the shops buying presents for everyone! I imagine most of the money allocated to me personally would be spent on clothes as I love to dress up.

I hope becoming a millionaire suddenly would not change my character and that I would use the money sensibly to bring happiness to all my family.

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Greenwood-Lee, Anne. (1987). Model Compositions for Certificate Examination, HK: Foundations Press

72

Imagine you are a blind man.
Describe what you feel
when you suddenly recover your sight.

I lost my sight a few years ago. I was ten years old and fell from the top of the slide hitting my head on the concrete below. Since then I have been adapted to my dark world. I read braille and get around very well with the help of my white stick. I am fairly self-sufficient and live a full life.

Last week, on my way home, I suddenly felt an agonising pain in my head. I felt dizzy and nauseous and had to steady myself on a park bench. The pain passed, so I walked home. In my bedroom I was amazed by weird flashes of light in front of my eyes. I hardly dared to hope but it was true. I could see! Blurred images appeared. My sight was returning.

Mother sobbed her joy when I told her what had happened. I, myself, could hardly believe my good fortune. I had forgotten how beautiful the world is. I was so happy just to gaze at the perfection of a flower, admiring its loveliness. Normal people rush about their business never stopping to look at their surroundings. They are almost as blind as I was.

New horizons have opened up for me now. I can get any book I would like from the library or bookshop without having to wait until it has been translated into braille. I can return to the sports I loved as a boy. My favourites were always soccer and badminton. I can join in again and not just sit on the side-lines. I am also considering changing my job. I have always wanted to be a police-man. I am so excited that now I can apply.

It was such a thrill for me to regain my sight. Many nights I have cried tears of joy. It is so exciting to be able to plan my future as a sighted man. I have a great sense of the beauty of life around me. Owing to my years of blindness I can now appreciate scenery with more sensitivity than a person who have never been so deprived.

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Greenwood-Lee, Anne. (1987). Model Compositions for Certificate Examination, HK: Foundations Press

Appendix "D"

Social Interaction Behavior

	Functions	Phrases
1.	Agreeing with someone	"Yes ..." "That's right ..." "I agree ..." "I think you're right ..."
2.	Agreeing with a suggestion	"That's a good idea ..." "That sounds good ..." "Yes, let's do that ..."
3.	Agreeing strongly	"I totally agree with you ..." "You're absolutely right ..."
4.	Asking for agreement	"Don't you agree?" "Don't you think ..."
5.	Asking for opinions	"What do you think ..." "Any other ideas ...? "Do you agree?"
6.	Avoiding giving an opinion	"It depends ..." "It's hard to say." "I don't really know."
7.	Checking that you understand	"Do you mean ...?" "Are you talking about ...?"
8.	Clarifying	"What I mean is ..." "I think what she/he meant was ...?
9.	Conceding a point	"Maybe ..." "I suppose so ..." "You could be right ..."
10.	Conceding, then putting a counter-argument	"Yes, but ..." "OK, but what about ...?"
11.	Concluding	"I think that's everything ..." "I think we can stop now ..."
12.	Disagreeing	"I don't really agree with you ..." "I'm not sure about that ..." "I don't think that's a good idea ..."
13.	Disagreeing strongly	"I really don't agree at all ..." "You must be joking!"
14.	Encouraging other speakers	"I see ..." "Mm ..." "Really ...?" "OK."

15.	Emphasizing	"I'm sure that ..." "I'm certain that ..." "It's important that ..."
16.	Expressing doubt	"Are you sure ...?" "Really?"
17.	Getting started	"Right, let's get started ..." "Right, what we have to decide is ..." "Right, what we're going to discuss is ..."
18.	Giving an opinion	"I think ..." "I suppose ..." "In my opinion ..." "As I see it ..." "Personally ..."
19.	Introducing a new topic	"Another thing to think about is ..." "And we also mustn't forget ..."
20.	Interrupting	"Sorry to interrupt, but ..." "Excuse me ..." "Just a moment ..."
21.	Making a suggestion	"Shall we ...?" "Why don't we ...?" "We could ..." "Supposing we ..." "Do you think it would be a good idea to ...?" "One possibility would be to ..."
22.	Moving on	"Let's go on to ..." "Now shall we talk about ..." "Next I think we should decide ..."
23.	Not understanding	"I'm sorry, I don't understand." "Sorry, could you say that again?" "Sorry, could you repeat that?" "Sorry, I didn't catch that."
24.	Persuading	"Don't you think if we ...?" "Perhaps if we ..." "Don't you think it might be better if we ...?"
25.	Referring to what someone said earlier	"As you said ..." "Going back to the point about ..." "As you said earlier ..."
26.	Summarizing	"So far we've talked about ..." "So, we've now decided ..." "What we've decided so far is ..."

From Task Oral English: A Two-Year Course for Form 4 and Form 5, Precise Publications, Ltd., Hong Kong, pp. 3-5

Appendix "E"

Cooperative Learning

What is Cooperative Learning? Relying on your group members and other classmates to learn together and complete assigned work together. (The teacher will also be available to help you at all times)

How will I be graded? Every member of the group will receive the same grade. If your group works hard and finishes all their work, they will receive the same high grade. If members of the group do not do well, they will receive the same low grade. Therefore, it is everyone's responsibility to make sure everyone learns! However, I will not give work that is too difficult for your slowest members!

Who is responsible for other students in my group? You are! If you see someone who doesn't understand, it is your responsibility to help them. Keep in mind that your group members will "sink or swim together!"

Will you give tests? Yes. On the tests, you will work independently and will be given an individual grade.

Will I have to change my behavior? That depends on your own habits and personality. Here are a few examples of expected behavior in your groups:

Traditional Classroom	***Cooperative Learning Classroom***
• Do your own work	• Work with others to learn
• Eyes looking at the front of classroom	• Eyes looking at other students
• Quiet in class	• Talking, discussing and participating
• Teacher makes all the decisions	• Students make many decisions
• You earn your own grade	• You earn the same grade as your group members
• Class is a time to be passive	• Class is a time to be active
• Review at home	• Summarize learning out loud in group

Rules of Cooperative Learning

1. Everybody helps
2. Everybody participates equally and takes turns
3. Group members explain by **telling** how, not by **doing** work for other students.
4. Group members should find out what the other members think.
5. Group members are to tell why, and ask why.
6. Group members are to contribute new ideas and suggestions.
7. Group members are to ask for and give information.
8. Group members are to share materials.
9. Group members may **agree** when there is a good reason.
10. Group members may **disagree** when there is a good reason.

Good Habits for Cooperative Learning

With your eyes/face:
Look directly at the speaker
Show your interest
Smile

With your body:
Nod your head to show you are listening
Face the speaker at all times
Thumbs up sign for agreement

With your voice:
"What's your idea?"
"Good idea!"
"That's interesting—go on!"

With your ears:
Be a good listener
Nod head to show you're listening

Behavior for Group Discussions

1. You may agree sometimes and you may disagree sometimes, but you must share your own opinion.
2. Criticize ideas, not people.
3. Treat everyone the way you would like to be treated, yourself.
4. If someone in your group is quiet, make sure to ask them for their opinion.

5. If you like to talk, make sure to give others their turn.
6. Make compromises in order to reach agreement. Everyone cannot always have his/her own way.

What to say to show agreement

"That's a good idea. I especially like the part..."

"That sounds good. How do the rest of you feel about it?"

"(Name), what about your opinion?"

"I agree, but what about (names)? They haven't had a chance to speak yet."

What to say when you aren't sure you understand, or when you aren't sure you agree with someone

"Your idea sounds good, but I would like to know more about..."

"Could you explain that one more time?"

"Can you give me an example of how you would do that?"

"Explain to me how that works."

What to say when you don't agree with someone's opinion

"Would you tell us why you said _____?"

"What makes you think that way?"

"I understand your point, but I don't agree with it because..."

"Let's look at other possibilities before we agree on this one..."

"Are there any other ways of doing it?"

"I have another idea that is different. Would you like to hear it?"

"Are you sure that's the right answer? I thought it was _____"

Appendix "F"

Post Group Debriefing and Reflection

Evaluation Form "A"

Group Name:_____

- Describe how your group worked together to complete the job:
- How do you feel about what happened in your group today?
- What things did **you** do in that helped your group be successful in completing the work?
- What things didn't work out well for your group? (Why)?
- In order to work better together, what could your group have done differently?

Comments:

Evaluation Form "B"

Group Name:_____

1 = very good 2 = good 3 = average 4 = some problems 5 = poor

1. Did everyone in your group participate equally?	1 2 3 4 5
2. Did members do a good job at their assigned jobs?	1 2 3 4 5
3. Did everyone learn what they were supposed to learn?	1 2 3 4 5
4. If I test you on this material tomorrow, how well will all members of your group do on the test?	1 2 3 4 5
5. Did your group try to encourage quiet members to speak?	1 2 3 4 5
6. Did you all check to make sure each member understood all parts of the assignment?	1 2 3 4 5

Comments:

Evaluation Form "C"

Group Name:_____

1. How much did members of your group participate as needed?
2. In what ways did members of your group share what they found or learned?
3. Did individual members do their assigned jobs well?
4. What problems occurred that limited your group's success?
5. What behavior did you do that made your group successful?

Comments:

Appendix "G"

Rubric for Imaginative Essay

E = Excellent
G = Good
A = Average
BA = Below Average
W = Weak

Please rate each category below with one of the 5 options above:

1. Title: is appropriate for the topic and style of the piece. ( )
   Comments:

2. Opening Paragraph: is interesting, the content pulls the reader into the piece, it serves as an effective introduction to the rest of the essay. ( )
   Comments:

3. Following paragraphs: are rich in supporting details and interesting hypothesis or narrative. ( )
   Comments:

4. Overall organization: paragraph advances in a logical progression, giving the impression that it has been well planned. ( )
   Comments:

5. Good use of adjectives/descriptions, and high-level vocabulary words ( )
   Comments:

6. Flow of essay: transitions between paragraphs and ideas are smooth and natural, rather than using mechanical terms such as "Firstly," "Secondly," etc. ( )
   Comments:

7. Creativity: ( )
   Comments:

8. Punctuation ( )
   Comments:

E = Excellent
G = Good
A = Average
BA = Below Average
W = Weak

9. Grammar ( )
   Comments:

10. Conclusion ( )
    Comments:

IF USING "CONDITIONAL" STYLE

11. Correct usage of hypothetical, conditional sentences: ("If I were able to fly, I would.... ( )
    Comments:

12. Modal verbs—correct usage and good variety of verbs (I would cast off the lines, steer through the harbor, etc.) ( )
    Comments:

IF USING "PERSONAL NARRATIVE" STYLE

13. Setting the scene: Using sensory details to describe your situation in a way that draws the reader in to the composition. ( )
    Comments:

14. Conversational dialogue or rich use of adjectives to make it more vivid ( )
    Comments:

15. Expressing your perspective: how well is the reader able to "see" things through the writer's perspective? ( )
    Comments:

Appendix "H"

Advertisement to Locate Partners

X-Sender: rg@mail.att.net.hk
X-Mailer: QUALCOMM Windows Eudora Pro Version 3.0.5 (32)
Date: Sun, 25 Apr 1999 21:39:44 +0800
To: IECC
From: Roseanne Greenfield <rg@att.net.hk>
Subject: project

Roseanne Greenfield <rg@att.net.hk> 01/26/99 09:33PM >>>
Country: Hong Kong, China (English Medium School)
Ages: 15-16
Class: 9th-10th grade Language Arts Class
Time: Feb. 24-May 31, but need to find committed partners right away. I will be devoting 2-3 class periods per week to the project
School: The Buddhist Sin Tak School of Hong Kong, located just minutes away from the border of Mainland China in the New Territories. My students are the top English class for their age group and very eager to share a project with a foreign class
Wanted: Native English speakers in English, Language Arts, Social Science, Humanities, or Computer Classes

Hello there!

I am doing my doctoral research on student attitudes towards collaborative e-mail projects as a vehicle for studying English. I have a great project set up and ready to go, if anyone is interested! (Of course, I look forward to collaboration on new ideas and suggestions, too!)

I need to establish a firm commitment right away, as I would like to start on February 24th. Please let me know right away if you are interested.

DETAILS:

1) This is not simply a key pal exchange, but a project centered on one or two central pieces of written English work, put together in the form of an anthology, book, newspaper, or other format, as decided upon by students.

2) Students will collaborate to critique each other's work, edit, and decide what goes into the publication

FRAMEWORK:

a) Exchange of penal letters (very unstructured)

b) Response to letters

c) An "ice breaker" activity, such as Cloze activities with fill-in-the blanks to quiz other students about Hong Kong or your own town.

d) students negotiate topics of interest for the written essay or report. I am open to just about any topic that the students want: school life, holidays, sports, music, games, hometowns, heroes, ethics, etc.

e) I thought that we could focus on two major assignments to begin with:
--one essay (based on whatever theme the students have selected
--one shared text (a few pages of literature, a newspaper article, etc)related to the students theme, and written commentary on this shared text.

f) finally, several joint editing sessions to put all the work together and make a final product (a book, anthology, magazine, etc)

If you are interested, please let me know as soon as possible!

Sincerely,
Roseanne Greenfield

----- ----- ----- ----- ----- ----- ----- ----- ----- -----

IECC is intended for teachers seeking other teachers for international and intercultural classroom e-mail partnerships at PRIMARY or SECONDARY school levels. To subscribe or unsubscribe, please send an e-mail message to: "iecc-request@stolaf.edu"

More information is available at URL:
http://www.stolaf.edu/network/iecc/

Appendix "I"

Suggested Timeline for Projects

Two-Three Weeks Prior to Project:

Getting Ready

Send "hello" letter to partner teacher/s and test hardware and software. Develop a basic user guide or worksheet for your students, and include new vocabulary and terminology. Establish a dedicated bulleting board in class for the project.

Give students a computer interest survey to establish prior computer background, ability level, areas of interest and ideas for projects.

Introduce the concept of e-mail to your students. Give them time to learn the software and feel comfortable with it. Teach vocabulary, software instructions and review learning methods (cooperative learning and process writing, for example).

Week One:

Beginning Student Interaction

Students send test messages and exchange lists of student names, e-mail addresses and street addresses (for sending photos and packages). Teachers send "welcome" letters to students in partner class/es and explain project goals, timelines, evaluation methods and student roles.

Week Two:

Student Introductions and Surveys

Send student introductions or "ice breaker" activities (poems, short biographical sketches, etc.). This is also a good time to send a simple survey. Ask your partners about their favorite foods, music, sports, the size of their school, school activities, special characteristics of their community, etc.

Week Three:

Planning the Project

Have students discuss their ideas in class and on-line. You might even sponsor a contest to see which group comes up with the best idea. Negotiate and develop ideas in partnership with your partner school/s.

Project Weeks:

Exchanging Student Work

Agree upon a project and set a reasonable time schedule. Remember to send at least one message each week—even if only to update partners on your progress. Teachers should schedule periodic evaluations as student work progresses. If something is not working, make appropriate changes as needed.

Towards End of Project:

Metacognative Focus on Writing

Students write and talk about their own writing. What are the strengths and weaknesses of their submissions? Which are their favorite pieces and why are they effective? What needs to be improved on?

Peer Evaluation

Using the writing process, students peer critique each other's written work and revise and polish drafts for publication.

Peer critiques can be done with partners in respective classes, as well as by pairing up with a partner from your partner school via e-mail. Using a rubric for evaluation is helpful.

Organizing your Publication

Select and edit articles received for your project. Consider graphics, others inclusions and cost. Teachers work with students to compile and print out the final product.

Final Week:

Closure

Students evaluate their project (on-line and in class) and come to a closure. This process can include "goodbye" letters, displays of realia from partner classes, exchanging addresses (street and e-mail) for the future and enjoying the final publication.

Appendix "J"

Teacher Introduction (Hong Kong to Iowa)

Well, let me tell you briefly about myself. I was born and raised in southern California (Pasadena and Huntington Beach, respectively), and went to school at Cal. State Fullerton and Cal. State Long Beach, where I majored in American Studies. As a young adult, I took a job teaching English in Taiwan and became interested in English and ESL teaching theory. Thus, I returned to California to get an MA in TESOL, and later on, my state credential in English. I am currently working on my doctoral dissertation in TESOL and Technology through the University of Leicester, England. (Since Hong Kong is an ex-British colony, most school ties here tied are to Britain, rather than the US)

I have taught English, ESL and History/World Cultures for 17 years in California (in a predominately Vietnamese and Mexican district), then in Guatemala for a year (the best year of my life!), Taiwan for two years, and Hong Kong for 6. We will probably spend one more year here in Hong Kong (the pollution is increasing at alarming rates) before returning to the USA.

I have been involved with about 5 or 6 e-mail exchanges before, but this one will be the most important! (for my doctoral dissertation)

I am 38 years old, and have been married for 6 years to a Malaysian-Chinese man, Francis, who I met at Cal. State, Fullerton. We have a 2-year-old daughter, Maya (named after the wonderful Mayan culture in Guatemala), who is just starting to talk and sing. We currently live at the Hong Kong International School (HKIS), where Francis is the director of Computer Services. Francis will be my "right hand man" should I have technical problems with our e-mail exchange. HKIS is the unofficial "American" school in Hong Kong, catering to expatriate American families, and using a US curriculum)

In addition to teaching, I love to write. I am currently working on an anthology of short stories about Hong Kong, and have had 4 stories published by literary magazines this year. I have also written several children's stories, one of which is being published in the United States. Writing professionally is a slow, tedious and depressing business of getting many rejections and few words of encouragement. For every piece that I publish, many others are rejected. I'm glad I never gave up my "day job" in order to write--it would never pay the bills!

Other than this, my hobbies include traveling (this is one of the reasons we have taken so many jobs overseas!) learning Mandarin, playing the guitar, and hiking in the beautiful, green hillsides of Hong Kong.

Let me know if there is anything else you'd like to know about me! I don't mind sharing this information with the students, if you feel it is appropriate, but I will also send them something later on.

Cheers! (a popular British expression here),
Roseanne

Appendix "K"

Teacher Introduction (Iowa to Hong Kong)

-----Original Message-----
From: R.Ziller <R_Ziller@Greenriver.k12.ia.us>
To: bstc@hknet.com <bstc@hknet.com>
Date: Thursday, February 25, 1999 10:56 PM
Subject: Ziller introduction

>I live and work in Green River, Iowa. As the students
>have stated, this is a small, rural area. Our county has
>a total of @5200 people over an area of @336 sq. miles,
>and is the second poorest in Iowa. This makes for quite a
>range of differences for our students here than for you in
>HK.
>
>I have taught English for 13 years, having started on the
>Mexican border in southern Texas. I taught ESL there, and
>my wife and I moved back to Iowa after the birth of our
>first daughter. We felt she needed to live nearer her
>cousins and grandparents. I now teach the upper level
>literature and composition classes, as well as German I-
>III and the school yearbook and newspaper. I am currently
>a candidate for National Board Certification, which
>requires me to construct a portfolio of my teaching
>practices in reading and writing, and videotaping two
>classes. After I do this, I have to analyze all the
>entries. This summer I'll have eight hours of testing in
>English pedagogy to look forward to. It's a total course
>of about 200 hours of work in addition to my usual duties.
>
>If I win this certification, I stand to receive a $10,000
>bonus from the state, and it could open doors to further
>professional opportunities. It's not a doctorate, but
>right now, that's out of reach for me here. The NBC I can
>do.
>
>On a personal level, I am married and have three of the
>most wonderful daughters (just ask them) in the world.
>I've been married for 13 years, and have yet to find a day
>or hour when I haven't thoroughly enjoyed it. My hobbies
>are many and varied: I have a strong interest in
>astronomy, literature and writing (naturally), mountain
>biking, hiking, and computer programming (I'm a base
>novice here). My strongest hobbies are politics and
>community involvement. I'm a local leader in the local
>education association and in the county Democratic party,
>and serve on a board for a county-wide teen center. I
>also am an officer in the Knights of Columbus, a church-
>based fraternal organization.

>
>As you can see, I'm stretched thin, but most of that is by
>choice. If you slow down, you rust. I look forward to
>getting to know you better as the project goes on!
>
>R. Ziller
>Green River Community High School

Appendix "L"

Pre-Model Survey for Hong Kong Students

Computer and English Use Questionnaire

Please answer the questions below by either filling in the blanks or circling one answer that best answers the question:

General Background

Male____ Female____

Age____

Where were you born?_____ *(city)*_____*(country)*

Main Questions

1. When did you first start studying at this school? (month and year)
   _____

2. How many years have you studied English? (primary and secondary schools only)_____

3. Have you studied English in private tuition class?
   (a) yes (b) no

   If you answered "no" to question 3, please go on to question 4.
   If you answered "yes" to question 3, how many years have you studied English in private tuition classes?_____

4. Do you speak English outside of your English classes at Buddhist Sin Tak College?
   (a) yes (b) no

   If you answered "no" to question 4, please go on to question 5.
   If you answered "yes" to question 4, how much time do you spend speaking English **outside** of class during a normal day?
   (a) 15 minutes or less (d) 2-3 hours
   (b) 30 minutes to 1 hour (e) more than 3 hours
   (c) 1-2 hours

5. Do you have a computer at home?
   (a) yes (b) no

   If you answered "no" to question 5, please go on to question 6.
   If you said "yes" to question 5, please answer the following:
   How long have you had it?_____
   How many hours a week do you use it?_____
   Please circle all of the things you use on the computer: (You may circle more *than one answer)*

(a) games
(b) word processing 文書處理
(c) CD-ROMs
(d) e-mail
(e) data bases
(f) installing programs 安裝軟件
(g) graphics
(h) programming
(i) the Internet

6. Have you ever used a computer in your **English** classes at school? (primary, secondary, private tuition)
(a) yes
(b) no

If you answered "no" to question 6, please go on to question 8.
If you answered "yes" to question 6, how much time do you generally spend using a computer in your **English** classes at school?
(a) a few times a year
(b) a few times a month
(c) once a week
(d) one or two times a week
(e) more than twice a week

7. If you answered "yes" to question 6, how helpful is the computer in learning English at school?
(a) very helpful
(b) helpful
(c) neutral
(d) not very helpful
(e) a waste of time

8. Have you ever used e-mail to write to people in other countries before?
(a) yes
(b) no

If you answered "no" to question 8, please go on to question 9.
If you answered "yes" to question 8, what language do you use to write e-mail in?
(a) English
(b) Chinese
(c) another language_____ (please fill in the blank)

9. Do you find it difficult to use computers?
(a) yes
(b) no

If you answered "no" to question 9, please go on to question 10.
If you answered "yes" to question 9 please indicate why computers are difficult for you to use: **(circle as many as you want)**
(a) I cannot operate (使用) them without help from others
(b) I cannot type well
(c) It takes me a long time to finish assignments on the computer
(d I do not have proper training in using a computer
(e) Other_____

For the statements below, please show your agreement or disagreement with the statement by circling one of the numbers between 1 to 5 as follows:

1= strongly agree
2= agree
3=neutral
4= disagree
5=strongly disagree

In comparison to the rest of the students in my class...

10.	I enjoy learning English in school.	1 2 3 4 5
11.	I can write an English composition with ease (輕易地)	1 2 3 4 5
12.	I can speak English with ease. (輕易地)	1 2 3 4 5
13.	I can read English with ease. (輕易地)	1 2 3 4 5
14.	I can understand spoken English with ease. (輕易地)	1 2 3 4 5
15.	I am studying English only because it is a requirement.	1 2 3 4 5
16.	I would rather spend time on my other courses rather than English.	1 2 3 4 5
17.	The main reason I want to improve in English is for my own personal satisfaction.	1 2 3 4 5
18.	The main reason I want to improve in English is to please my parents.	1 2 3 4 5
19.	I am nervous when I have to write an English composition.	1 2 3 4 5
20.	My classmates can help me improve in my English writing by discussing my compositions with me.	1 2 3 4 5
21.	I am confident about my English ability in general, including reading, writing, speaking and listening.	1 2 3 4 5
22.	I am a good typist, compared to the rest of the students in my class	1 2 3 4 5
23.	I am not interested in using computers in my English class.	1 2 3 4 5

24. I am embarrassed to send letters to English-speaking student. 1 2 3 4 5

25. I enjoy writing compositions by hand more than by computers. 1 2 3 4 5

26. I can learn English faster when I use a computer. 1 2 3 4 5

I would like to know if you think certain English skills will improve after exchanging letters and sharing essays (via e-mail) with a class of native English speakers:

27. I think my English **writing** will improve. 1 2 3 4 5

28. I think my English **speaking** will improve. 1 2 3 4 5

29. I think my English **reading** will improve. 1 2 3 4 5

30. I think my English **listening** will improve. 1 2 3 4 5

Please answer the following questions in full sentences to best describe your feelings, attitudes (態度) ***and opinions. Wherever possible, give specific examples:***

31. What would you like to change about your English class right now, in order to help you learn English better?

_____

_____

_____

_____

32. What are your feelings about exchanging letters and sharing essays via e-mail, with a class of native English speakers?

_____

_____

_____

_____

33. Are you interested in using computers in your English class? Why or why not?

_____

_____

_____

_____

34. What areas of English do you do best in? Please give examples.

_____

_____

_____

_____

35. What areas of English are you weakest in? Please give examples.

_____

_____

_____

_____

Thanks so much for your co-operation!!

Appendix "M"

Pre-Model Survey for Iowa Students

Computer and English Questionnaire

Please answer the questions below by either filling in the blanks or circling one answer that best answers the question:

General Background

Male____ Female____

Age____

Where were you born?_____ *(city)*_____*(country)*

Main Questions

1. When did you first start studying at this school? (month and year)
   _____

2. Is English the first language you learned?
   (a) yes (b) no

   If you answered "yes" to question 2, please go on to question 5.
   If you answered "no" to question 2, what is the first language you learned?_____
   At what age did you start learning English?_____

   Questions 3 and 4 have been removed. Go on to number 5.

5. Do you have a computer at home?
   (a) yes (b) no

   If you answered "no" to question 5, please go on to question 6.
   If you said "yes" to question 5, please answer the following:
   How long have you had it?_____
   How many hours a week do you use it?_____
   Please circle all of the things you use on the computer: (You may circle more than one answer)

   (a) games (b) word processing
   (c) CD-ROMs (d) e-mail
   (e) data bases (f) installing programs
   (g) graphics (h) programming
   (i) the Internet

6. Have you ever used a computer in your English classes at school? (primary, secondary, private tuition)
   (a) yes (b) no

   If you answered "no" to question 6, please go on to question 8.

If you answered "yes" to question 6, how much time do you generally spend using a computer in your English classes at school?

(a) a few times a year
(b) a few times a month
(c) once a week
(d) one or two times a week
(e) more than twice a week

7. If you answered "yes" to question 6, how helpful is the computer in learning English at school?

(a) very helpful
(b) helpful
(c) neutral
(d) not very helpful
(e) a waste of time

8. Have you ever used e-mail to write to people in other countries before?

(a) yes
(b) no

If you answered "no" to question 8, please go on to question 9.

If you answered "yes" to question 8, how would you rate this experience with e-mail:

(a) very enjoyable
(b) enjoyable
(c) neutral
(d) not particularly good
(e) a waste of time

9. Do you find it difficult to use computers?

(a) yes
(b) no

If you answered "no" to question 9, please go on to question 10.

If you answered "yes" to question 9 please indicate why computers are difficult for you to use: (circle as many as you want)

(a) I cannot operate them without help from others
(b) I cannot type well
(c) It takes me a long time to finish assignments on the computer
(d) I do not have proper training in using a computer
(e) Other_____

For the statements below, please show your agreement or disagreement with the statement by circling one of the numbers between 1 to 5 as follows:

1= strongly agree
2= agree
3=neutral
4= disagree
5=strongly disagree

In comparison to the rest of the students in my class...

10. I enjoy learning English in school. 1 2 3 4 5

11.	I can write an English composition with ease.	1 2 3 4 5
12.	I am confident about my ability to revise and rewrite written compositions.	1 2 3 4 5
13.	I am studying English only because it is a requirement.	1 2 3 4 5
14.	I would rather spend time on my other courses rather than English.	1 2 3 4 5
15.	The main reason I want to improve in English is for my own personal satisfaction.	1 2 3 4 5
16.	The main reason I want to improve in English is to please my parents.	1 2 3 4 5
17.	I am nervous when I have to write an English composition.	1 2 3 4 5
18.	My classmates can help me improve in my English writing by discussing my compositions with me.	1 2 3 4 5
19.	I am confident about my English ability in general, including reading, writing, grammar and listening	1 2 3 4 5
20.	I am a good typist, compared to the rest of the students in my class.	1 2 3 4 5
21.	I am not interested in using computers in my English class.	1 2 3 4 5
22.	I am not interested in sending letters or essays to students in other countries.	1 2 3 4 5
23.	I enjoy writing compositions by hand more than by computers.	1 2 3 4 5
24.	I can learn English faster when I use a computer.	1 2 3 4 5
25.	Using e-mail is a good way to learn about different cultures and people.	1 2 3 4 5
26.	Learning about different cultures and people is not important to me.	1 2 3 4 5

I would like to know if you think certain skills will improve after exchanging letters, sharing essays and participating in a cooperative project (via e-mail) with an English class of foreign students:

27.	I think my **writing** skills will improve.	1 2 3 4 5

28. I think my **reading** skills will improve. 1 2 3 4 5

29. I think my **revising** and **editing** skills will improve. 1 2 3 4 5

30. I think my ability to **discuss** and **debate** issues (verbally) will improve. 1 2 3 4 5

31. I think I will gain new knowledge that will help me out in life. 1 2 3 4 5

Please answer the following questions in full sentences to best describe your feelings, attitudes and opinions. Wherever possible, give specific examples:

32. What are your feelings about exchanging letters and sharing essays via e-mail, with a class of Chinese students who are learning English in Hong Kong?

_____

_____

_____

33. Are you interested in using computers in your English class? Why or why not? (discuss)

_____

_____

_____

34. What areas of English do you do best in? Please give examples.

_____

_____

_____

35. What areas of English are you weakest in? Please give examples.

_____

_____

_____

Thanks so much for your co-operation!!

Attachment "N"

Welcome Letter to Students (Hong Kong to Iowa)

Dear students,

My name is Roseanne Greenfield, and I am an English teacher from California, USA. I would like to invite you to participate in an exciting, collaborative e-mail project designed to link your English class at Buddhist Sin Tak College, via e-mail, with a high school class of native English speakers in the USA.

The project will last for approximately three months (February 24th through May 31st) and will be a co-operative effort between students at your school and those in an 11th grade English composition and literature class at Green River Community High School in Green River, Iowa. In addition to exchanging letters with foreign "key pals", you will be producing a joint English language project such as a magazine, newspaper, or anthology of writings collected over the next three months. This will be an entirely student-produced endeavor, and both classes will join together to organize and design the project, as well as to co-operatively write, critique, edit, revise, and put together a finished project that we can all be proud of!

I am an English and ESL teacher who has worked for the past 17 years in California, Guatemala, Taiwan, Vietnam and Hong Kong. I have lived in Hong Kong for six years, where I taught English at the Chinese International School for most of this time. This will be the 6th international e-mail project that I have developed over the past four years, and I'm sure it will be as exciting and successful as the others!

I look forward to your participation, as well as getting to know you all on a personal basis over the next few months!

Sincerely yours,

Roseanne Greenfield

Appendix "O"

Personal Interview

A. Warm-up

Are you ready to start? I'll say your name and the date first, and then I'll begin the questions. Please remember to answer the questions with as much detail as you can. You can take as much time as you need, and if you don't understand part of the question, I will be happy to repeat it again, or say it in a way that is understandable to you.

B. Questions

1. **How would you describe this project to another student who doesn't know anything about it?**
   (a) Your description can include activities in the classroom and well as activities in the computer lab.
   (b) Can you describe the activities in the computer lab in more detail?
   (c) Can you describe the activities in the classroom in more detail?

2. **What do you think of this project?**
   (a) Can you give more specific details about your feelings towards this project?
   (b) Would you recommend this project to your friends in other classes? (Why or why not?) **(Show list "A")**
   (c) I'm going to show you a list of words describing this project. Please choose **one** or **more** words that **best describe** your opinions and feelings about the project. Why?

3. **Which activities during this project were the most helpful for learning English? (Show list "B" after eliciting response)**
   (a) I'm going to show you a list of activities that we did in class to help you remember. Please tell me which **ones** were the most helpful to you for learning English. Take your time to read them. Why?
   (b) Anything else?

4. **What activities during this project were least helpful for learning English? (Show list "B" again after eliciting response)**
   (a) Please look at the list again and tell me the activities that were not very helpful to you in learning English. (Why?)
   (b) Anything else?

5. **What activities during this project were the most fun? (You can look at list "B" again if you'd like)**
   (a) What made these activities fun for you?
   (b) Anything else that was enjoyable?

6. **What activities during this project were the least fun?**
   (a) Were any of these activities (show list "B" again) not very fun? Why?
   (b) Anything else?

7. **Would you change any part of this project in order to make it a better project? Which parts? How?**
   (a) If you were the teacher, what would you change about this project to make it better?
   (b) Would you change anything that we did in the classroom to make this a better project? Explain.
   (c) Would you change anything that we did in the computer room to make this a better project? Explain.
   (d) Would you change anything that we did with our Iowa partners to make this a better project? Explain.

8. **What do you think of cooperative, small-group learning? Just as a reminder, cooperative learning is when we work together with classmates in small groups.**
   (a) Would you recommend small-group learning to other students? Why?
   (b) What are the good points and bad points about small group learning?

9. **Did working in small groups help you learn English or not? (Show list "C" after eliciting first response)**
   (a) I'm going to show you another list. Please tell me if
   (b) small-group learning helped you with any of these things on the list.
   (c) Anything else?
   (d) Was peer-commenting in small groups helpful. Just to remind you, peer-commenting is when your group partners in Hong Kong made suggestions on your essays. Did you find this helpful or not?

10. **What did you think about learning English with your partner in America with e-mail?**
    (a) Was exchanging e-mail with your partner a useful way to learn English?
    (b) Were there any problems in exchanging e-mail with your foreign partners?
    (c) Can you suggest ways that your partners could have helped you learn English better?

11. **Do you think this project will help you pass your end-of-year English exams? How much? Explain?**

12. **Do you think this project helped you gain skills that you will need in the future?**
    (a) Will it help you gain skills that will be useful outside of school or not?
    (b) Anything else?

13. **Did you run into any problems using the computers?**
    (a) Did you have any problems with typing, using the word processor or using the e-mail program?
    (b) Was there anything about the computer lab that you didn't like? Explain.
    (c) Would you suggest any changes for the computer lab part of the project or not?

14. **Do you prefer learning English with or without computers? Why?**

15. **How did you feel about using computers at the beginning of our project in January? (Show list "D" after eliciting first response)**
    (a) I'm going to show you a list of words. Please choose **one**
    (b) or **more** words that described your feelings about computers at the beginning of our project in January
    (c) Did you feel that you didn't have enough computer experience at the beginning of our project in January?
    (d) Did you feel that you didn't have good typing skills at the beginning of the project in January?
    (e) Did you **like** or **dislike** using computers at the beginning of the project in January?

16. **How do you feel about using computers now, in May? (Show list "D" after eliciting first response)**
    (a) Please look at the list again and choose **one** or **more** words
    (b) that describe how you feel about using computers now.
    (c) Are you uncomfortable with using computers now or not?
    (d) Do you feel any better about using computers now than at the beginning of the project, or not?
    (e) Did this project give you a chance to improve any computer skills or not?

17. **What do you think about e-mail?**
    (a) Is e-mail useful for learning English?
    (b) Do you think it will be useful to you in the future or not?
    (c) Is e-mail something you enjoy, or is it something you are not interested in?

18. **Did your opinion about using e-mail change between the beginning and the end of this project?**
    (a) Before we started this project in January, what was your opinion about using e-mail in an English class?
    (b) Now, in May, what is your opinion about using e-mail in an English class?

19. **Would you like to do another project like one in the future or not? (Show list)**
    (a) What parts are useful to repeat again? (Show list)
    (b) What parts are not useful to repeat again? (Show list)

20. **Is there anything else you would like to say about your feelings and opinions about this project?**

Question 2: What did you think of this project?	**Question 3: Which activities during this project were the most helpful for learning English?**
A Waste of time Helpful Fun Exciting Boring Dangerous Useful Contagious Not Useful A good learning experience No interest in it Tiring Enjoyable Not effective Other_____	1. "Hello" Letters 2. Personal letters to partner 3. Making Cloze Exercises 4. Answering your partners' Cloze Exercises 5. Writing Imaginative Essays 6. Reading Imaginative Essays from Iowa 7. Getting comments from your Iowa partner about your essay 8. Writing comments to your Iowa partner about their essay 9. Cooperative learning in small groups 10. Small group comments on essays 11. Speaking practice in small groups 12. Computer practice 13. E-mail practice 14. Other_____
Question 8: What do you think of cooperative, small-group learning?	**Question 15: How did you feel about using computers at the beginning of our project in January?** **How do you feel about using computers now, in May?**
Reading Writing Speaking Listening Grammar Thinking Vocabulary Other_____	Confident 有信心 Afraid Nervous Silly Comfortable using them by myself Uncomfortable using them by myself Fun Boring Cold Easy to use Not easy to use Interested Not interested Dislike Exciting Helpful Not helpful Other_____

Appendix "P"

Post-Model Survey for Iowa Students

E-mail Project Post-Questionnaire

Background Information
Male ____ Female ____
Age____

For the statements below, please show your agreement or disagreement by circling one of the numbers between 1 to 5 as follows:

1= strongly agree
2= agree
3= neutral
4=disagree
5=strongly disagree

In comparison to the rest of the students in my class...

1.	I can write an English composition with ease	1 2 3 4 5
2.	I can speak English with ease	1 2 3 4 5
3.	I can read English with ease	1 2 3 4 5
4.	I can understand spoken English with ease	1 2 3 4 5
5.	I would rather spend time on my other courses rather than English	1 2 3 4 5
6.	I can learn English faster when I use a computer	1 2 3 4 5
7.	I am not interested in using computers in my English class	1 2 3 4 5
8.	I am nervous when I have to write an English composition	1 2 3 4 5
9.	I enjoy learning English in school	1 2 3 4 5
10.	I am not interested in sending letters or essays to students in other countries	1 2 3 4 5
11.	I am confident about my English ability in general, including reading, writing, speaking and listening	1 2 3 4 5
12.	My classmates in Iowa cannot help me improve my English writing by discussing my compositions with me	1 2 3 4 5
13.	Communicating by e-mail is a good way to improve my English	1 2 3 4 5
14.	I do not enjoy using e-mail	1 2 3 4 5

15. I am interested in participating in another e-mail exchange project in my English class 1 2 3 4 5

16. Using e-mail is a good way to learn about different cultures and people. 1 2 3 4 5

17. Learning about different cultures and people is not important to me 1 2 3 4 5

18. My partners in Hong Kong can help me improve my writing by giving me suggestions and comments via e-mail 1 2 3 4 5

19. I have gained knowledge through this project that will help me out in life 1 2 3 4 5

How much have your skills in the following areas improved as a result of this project?

1= has improved very much
2= has improved somewhat
3= neutral
4= has improved just a little
5= has not really improved

20. My English writing . . . 1 2 3 4 5

21. My English speaking . . . 1 2 3 4 5

22. My English reading . . . 1 2 3 4 5

23. My English listening . . . 1 2 3 4 5

24. My ability to use the computer . . . 1 2 3 4 5

25. My ability to **make helpful comments** (in writing) about other students' essays . . . 1 2 3 4 5

26. My ability to **revise my writing** (edit, correct and change) based on other students' comments 1 2 3 4 5

27. My ability to discuss and debate issues verbally 1 2 3 4 5

28. My understanding of people in other cultures 1 2 3 4 5

How helpful were the following activities for learning English?

1= extremely helpful
2= quite helpful
3= neutral
4= slightly helpful
5= not helpful at all

29.	"Hello" letters	1 2 3 4 5
30.	Writing personal letters to my Hong Kong partners	1 2 3 4 5
31.	Sharing ideas with students in other countries through e-mail	1 2 3 4 5
32.	Getting comments from my Hong Kong partners about my imaginative essay	1 2 3 4 5
33.	Writing comments for my Hong Kong partners about their imaginative essays	1 2 3 4 5
34.	Making Cloze exercises for our partners	1 2 3 4 5
35.	Answering our partners' Cloze exercises	1 2 3 4 5
36.	Rewriting and editing my essay based on the comments from my Hong Kong partners	1 2 3 4 5
37.	Creating a joint publication togetherwith our foreign partners	1 2 3 4 5

Please answer the following questions in full sentences to best describe your feelings, attitudes and opinions. Whenever possible, give specific examples.

38. What did you think of this project? (Your opinions, feelings and attitudes)

_____

_____

39. My **favorite** activity(ies) during the project was/were:

_____

because:

_____

40. The part(s) of this activity I **liked least** (我最不喜歡) was/were:

_____

because:

_____

41. The part/s of this project that helped me learn English best was/ were

_____

because:

_____

42. What **changes** could be made to make this a better project next time? Please explain in detail:

_____

_____

43. How did you feel about using computers at the **beginning** of the project in **March**? You can include your feelings about typing, using computer programs, using e-mail, spending time on computer skills or other things. (Please explain)

_____

_____

44. How do you feel **now** about using computers? You can include feelings about typing, using computer programs, using e-mail, spending time on computer skills or other things. (Please explain)

_____

_____

45. Did you work well sharing ideas with your partners in Hong Kong by e-mail, or were there problems? Please explain in detail:

_____

_____

46. Would you like to participate in another project like this in the future or not? Please explain in detail:

_____

_____

Thank you so much for your cooperation!!

Appendix "Q"

Post-Model Survey for Hong Kong Students

E-Mail Project Post Questionnaire

Background Information
Male ____ Female ____
Age ____

For the statements below, please show your agreement or disagreement by circling one of the numbers between 1 to 5 as follows:

1= strongly agree
2= agree
3=neutral
4= disagree
5=strongly disagree

In comparison to the rest of the students in my class...

1.	I can write an English composition with ease (輕易地)	1 2 3 4 5
2.	I can speak English with ease (輕易地)	1 2 3 4 5
3.	I can read English with ease (輕易地)	1 2 3 4 5
4.	I can understand spoken English with ease (輕易地)	1 2 3 4 5
5.	I would rather spend time on my other courses rather than English	1 2 3 4 5
6.	I can learn English faster when I use a computer	1 2 3 4 5
7.	I am not interested in using computers in my English class	1 2 3 4 5
8.	I am nervous when I have to write an English composition	1 2 3 4 5
9.	I enjoy learning English in school	1 2 3 4 5
10.	I am embarrassed to send letters to English-speaking students	1 2 3 4 5
11.	Learning English in small groups (cooperative learning) is a good way to improve my English	1 2 3 4 5
12.	I am not interested in participating in another e-mail exchange project in my English class	1 2 3 4 5
13.	I am confident (有信心) about my English ability in general, including reading, writing, speaking and listening	1 2 3 4 5

14. My classmates in Hong Kong cannot help me improve my English writing by discussing my compositions in groups 1 2 3 4 5

15. Communicating with native English speakers by e-mail is a good way to improve my English 1 2 3 4 5

16. I do not enjoy using e-mail 1 2 3 4 5

How much have your skills in the following areas improved as a result of this project?

1= has improved very much
2= has improved somewhat
3= neutral
4= has improved just a little
5= has not really improved

17. My English **writing . . .** 1 2 3 4 5

18. My English **speaking . . .** 1 2 3 4 5

19. My English **reading . . .** 1 2 3 4 5

20. My English **listening . . .** 1 2 3 4 5

21. My **ability to use the computer . . .** 1 2 3 4 5

22. My ability to **make helpful comments** (in writing) about other students' essays . . . 1 2 3 4 5

23. My ability to revise (修正) my writing based on other students' comments . . . 1 2 3 4 5

24. My skills for getting good results on my year-end English exam . . . 1 2 3 4 5

How helpful were the following activities for learning English?

1= extremely helpful
2= quite helpful
3= neutral
4= slightly helpful
5= not helpful at all

25. "Hello" letters 1 2 3 4 5

26.	Cooperative Learning in small groups	1	2	3	4	5
27.	Sharing ideas with students in other countries through e-mail	1	2	3	4	5
28.	Getting comments from my Iowa partner about my Imaginative Essay	1	2	3	4	5
29.	Writing comments to my partner about their Imaginative Essay	1	2	3	4	5
30.	Getting comments from classmates in Hong Kong about how to improve my essay (peer commenting)	1	2	3	4	5
31.	Making Cloze exercise for our partners	1	2	3	4	5
32.	Answering our partner's Cloze exercise	1	2	3	4	5
33.	Rewriting and editing my essay with the help of Hong Kong classmates in my group	1	2	3	4	5
34.	Rewriting and editing essays with the help of foreign partners	1	2	3	4	5
35.	Creating a joint publication together with our foreign partners	1	2	3	4	5

Please answer the following questions in full sentences to best describe your feelings, attitudes and opinions. Whenever possible, give specific examples.

36. My **favorite** activity(ies) during the project was/were:

    _____

    because:

    _____

    _____

37. The part(s) of this activity I **liked least** (我最不喜歡) was/were:

    _____

    because:

    _____

    _____

38. What would you like to **change** about this project next time so that you can learn English better? Please explain in detail:

_____

_____

39. How did you feel about using computers at the **beginning** of the project in **February**? You can include your feelings about typing, using computer programs, using e-mail, spending time on computer skills or other things. (Please explain)

_____

_____

40. How do you feel now (in May) about using computers? You can include feelings about typing, using computer programs, using e-mail, spending time on computer skills or other things. (Please explain)

_____

_____

41. Did you work well sharing ideas with your small group members in Hong Kong, or were there problems? Please explain in detail.

_____

_____

42. Did you work well sharing ideas with your partners in the USA by e-mail, or were there problems? Please explain in detail:

_____

_____

43. Would you like to participate in another project like this in the future or not? Please explain in detail:

_____

_____

Thank you so much for your cooperation!!

Appendix "R"

Consent to Use Student Responses for Research

I am studying the ways native English Speakers and ESL (English as a Second Language) students learn English through collaborative e-mail projects.

Sometime in the next few months, I would like to interview you for this research. You will not spend more time than required for this course, except for a few minutes answering questions for the interview. The interview will also be tape recorded. On occasion, I would like to video tape the whole class, as well.

I will also be giving you brief questionnaires to evaluate your feelings about learning English through e-mail projects. You do not have to put your name on the questionnaires.

With your permission, your answers and your e-mail messages will be analyzed to study how language users of different linguistic and cultural backgrounds learn English with computers and e-mail projects.

Your name and answers to the questions and interviews will be kept in strict confidence. None of your teachers or workers at school will have access to the original answers containing your name or student number.

After you answer the interview questions, I will attach a false name to your answers instead of using your real name, so that your identities will not be known to anyone else except me.

Please indicate your decision on the use of your responses for research by checking YES or NO and signing below.

____ YES, I voluntarily give you permission to use my responses for research.

____ NO, I do not wish my responses to be used in research.

Signature _____

Date _____

Student number _____

Appendix "S"

Project Evaluation for Mr. Ziller

Please answer the following questions with explanations and examples:

1. What activities during this project helped your students learn English best? Why?

2. What activities during this project were least helpful for your students in learning English? Why?

3. What activities during project did students enjoy most? Why?

4. What activities during project did students like least? Why?

5. What were some of the common complaints you received from students (about the project) if any?

6. What were some of the good things (praise, commendations, etc) that your students said about the project, if any?

7. Did you use cooperative small-group learning at any time during this project? If so, please describe the situation.

8. Did you use group discussion at any time during this project? If so, please describe the situation.

9. Did you use peer-critiquing (amongst your own students) at any time during this project? If so, please describe.

10. Describe how your students used computers in the lab. (The room, environment, logistics of the typical computer lab lesson, your pedagogical style, student responsibilities, etc.)

11. Did you normally stay in computer lab with the students or did they normally work on their own (or both)? What were the pros and cons to your decision (whichever it was)

12. Did students generally feel there was cultural learning and understanding gained from the project or not?

13. What did you think of rubric exchange? Pros and cons?

14. What did you think of communication between the two teachers? Areas for improvement?

15. What suggestions do you have for improving any part of this project for the future?

16. What could we have done to increase student collaboration with each other? By collaboration, I mean having students originate, discuss and negotiate their own ideas for activities.

17. How many days a week (on average) did your class spend on this project?

18. Did you incorporate any of your own English agenda (from your English Department syllabus) into the project? Explain.

19. How did you introduce and teach the Cloze paragraphs to your class? (include your pedagogical methods and expectations and or homework for students)

20. How did you introduce and teach the imaginative essays to your class? include your pedagogical methods and expectations and or homework for students)

21. Would you want to participate in another exchange in the future? Why or why not?

22. Were student outcomes worth the time and energy put into this project?

23. In what ways did students participate by originating their own ideas related to the project?

Appendix "T"

Project Evaluation for Ms. Chan

1. What were the strong points of this project?

2. What were the weak points of this project?

3. How would you change this project next time to make it more effective for the students at BSTC?

4. What aspects of this project helped students gain the most skills?

5. What aspects of this project would you like to see repeated again in the future?

6. What things would you leave out from this project next time?

7. What kind of feedback did you receive from the students about this project?

8. Were the results of the project worth the time and effort we put into it, or not?

9. Do you see yourself trying an e-mail project on your own in the future, or not? (Explain)

10. If so, how would you describe the type of e-mail project you might try in a future English class?

11. Do you foresee any problems in setting up an e-mail project in the future at BSTC?

12. Other input/ideas/suggestions:

Appendix "U"

Labels for Input and Output Measure Scales

INPUT MEASURES

1. Familiarity with Computers

5(a)	CANDO1	"I can use games"
5(b)	CANDO2	"I can use word processing"
5(c)	CANDO3	"I can use CD-ROMs"
5(d)	CANDO4	"I can use e-mail"
5(e)	CAND05	"I can use databases"
5(f)	CANDO6	"I can install programs"
5(g)	CANDO7	"I can do graphics"
5(h)	CANDO8	"I can write computer programs"
5(i)	CANDO9	"I can use the Internet"

2. Self-Assessed Ability in English

10.	LRNENG	"I enjoy learning English in school"
11.	WRITE1	"I can write and English composition with ease"
12.	SPEAK1	"I can speak English with ease"
13.	READ1	"I can read English with ease"
14.	UNDSTD1	"I can understand spoken English with ease"

3. Prediction of Improvement

27.	ENGWRIT1	"I think my English writing will improve"
28.	ENGSPK1	"I think my English speaking will improve"
29.	ENGREAD1	"I think my English reading will improve"
30.	ENGLIST1	"I think my English listening will improve"

4. Extrinsic Motivation

15.	REQUIRE	"I am studying English only because it is a requirement"
16.	OTHRCRS1	"I would rather spend time on my other courses rather than English"
17.	PARENTS	"The main reason I want to improve in English is to please my parents"

***All three items in this scale have been recoded so that the score is an index of positive motivation rather than negative motivation**

5. Confidence in Relation to the Project

19.	NERVOUS1	"I am nervous when I have to write and English composition"
20.	CLSMTS1	"My classmates can help me improve in my English wri discussing my compositions with me"
21.	GENCONF1	"I am confident about my English ability in general, including reading, writing, speaking and listening"
22.	EMBRS1	"I am embarrassed to send letters to English-speaking students"

***Items 19 and 22 have been recoded to as to provide a measure of positive rather than negative confidence.**

6. Attitude to the Use of Computers in the English Class

22.	TYPIST	"I am a good typist, compared to the rest of the students in my class"
23.	NOTINT1	"I am not interested in using computers in my English class"
25.	BYHAND	"I enjoy writing compositions by hand more than by computers"
26.	FASTER	"I can learn English faster when I use a computer"

***Item 23 has been recoded so that the score is an index of positive motivation rather than negative motivation**

OUTPUT MEASURES

7. General Satisfaction with the Project

17.	ENGWRIT2	"My English writing has improved"
18.	ENGSPK2	"My English speaking has improved"
19.	ENGREAD2	"My English reading has improved"
20.	ENGLIST2	"My English listening has improved"
21.	COMPUSE	"My ability to use the computer has improved"
22.	HLPCOM	"My ability to make helpful comments (in writing) about other students' essays has improved"
23.	REVISE	"My ability to revise my writing based on other students' comments has improved"
24.	GOODRES	"My skills for getting good results on my year-ended English exam have improved

8. Self-Assessed Ability in the Four Skills

1.	WRITE2	"I can write and English composition with ease"
2.	SPEAK2	"I can speak English with ease"
3.	READ2	"I can read English with ease"
4.	UNDSTD2	"I can understand spoken English with ease"